



Fig. 103.2. The basic system/intocap model of a matrix.



Matrix Thinking / Book I • David Noël

Matrix Thinking Book I

David Noël



Matrix Thinking
Book I

David Noël

BFC PRESS

2004

1997 Print Edition ISBN: 09587 63704

*For Peter Good,
who understood
and encouraged.*

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1997 print edition published by BFC Press,
a division of
Ben Franklin Centre
PO Box 27, Subiaco, WA 6008, Australia
e-mail: office@aoi.com.au

Printing history

Beta-release version 1992
Part issued in parts 1995
First print edition 1997

The present online edition is a corrected and reset version of the 1997 print edition, with substantially the same content. It was converted to PDF format in sections and placed on the Web at www.aoi.com.au/matrix/MT.htm in 2004.

Design, layout and typesetting, and conversion for
online PDF download: David Noël

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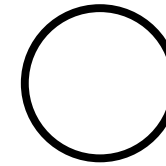
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FORE WORD

“The art of discovery is to see what everybody sees, and think what nobody thinks”

The Origins of Matrix Thinking

This book grew out of my previous book, *Nuteeriat* [Noël, 1989]. In *Nuteeriat* I was able to present a rather new picture of the Earth, its history and development, and its interaction with its living inhabitants.

The book looked at three broad divisions of the Earth’s development. First there was the Physical Earth, the result of the operation of the physical laws of nature upon the substances and energies of the planet.

Then there was the Biological Earth, showing the development of life on Earth and its interaction with the physical components, and, further, the back-influence of the biological elements on the physical world.

Thirdly, there was a brief and hesitant entry into the Intelligent Earth, the ever more powerful influences of intelligent species, in particular man, upon the physical and biological components of our planet. In this section I was able to bring forward perhaps generally unappreciated evidence of the profound changes wrought by man upon our world, not just over the last few hundreds or thousands of years of his existence, but far, far beyond, back into the time when man, as the creature we recognize as such, was in his earliest beginnings.

The broad-spectrum, synthetic approach used in *Nuteeriat* was able to yield a rich haul of new ideas about our world. In the words of one reader, it was able to bring out ‘many new truths’. None of these was actually claimed as a ‘truth’, but instead was presented as a ‘Proposition’, an Aunt Sally put up for questioning, testing, rejection, or tentative acceptance, to stand or fall on its own merits.

This fertile approach to looking at the world was, in fact, Matrix Thinking, although it was not named as such in *Nuteeriat*.

Throughout its history the scientific world has, in some times, advanced through brilliant feats of deduction, and in others been held back and diverted from progress by entrenched concepts, which have fallen from acceptance only after prolonged assault by the new ideas and reasoning which replaced them. Moreover, science is no stranger to the prejudices, politics, and emotions which have such a major influence in the social world of man.

In *Nuteeriat* I put forward the suggestion that, if the Matrix Thinking approach used could be used successfully in the so-called ‘hard sciences’ of physics, biology, and the like, could it not also be applied in the ‘soft’ sciences of politics, law, sociology and their sisters? The present book is the response to that question. It will be for the reader to judge the success of that application.

What’s in the Book

The broad plan of the work is a conventional one. Successive chapters look at what is meant by Matrix Thinking, how it fits in with existing philosophical approaches to the world, and how it can be applied to yield general conclusions, rules, laws, about the makeup of the Society of Man.

The total work consists of two separate parts, called Book I and Book II. In one departure from general practice, the chapters in these books are numbered like the rooms in a multi-storey hotel, so the third chapter in Book I is Chapter 103, the sixth chapter in Book II is Chapter 206, and so on.

A fundamental feature in the development of the topics covered is the progressive introduction of new entities, new or re-formulated concepts which will be put together to form a composite whole — the components of a Matrix Model. In gaining a better understanding of how parts of our universe operate, the development of suitable entity models is often an essential first step for success.

As an example, in the history of discovery of the properties of matter, a fundamental step required for understanding these properties was the postulation of an entity which was assigned the name ‘atom’.

Similarly, in developing an understanding of how human diseases act, a fundamental first requirement was to suggest the existence of entities named ‘germs’, as the active agents of diseases. In neither case was the exact definition or description of the relevant entity needed, what was important was to put in place the concept. Increasing knowledge of the entities, and their definition and classification, could and did follow only when their broad existence had been accepted.

And so, in moving to build a greater understanding of human society and how it operates, the first steps will involve extraction of the essential entities involved. Once this has been accomplished, a start can be made on setting down the properties and classifications of the entities, and thought given to how they interact. Gradually we will build up a model of our Matrix, and begin the slow process of refining and improving this model to the point where it can be practically applied to tell us more about our world.

Later, in Book II, the framework or machine so erected will be applied to specific areas of society to yield various conclusions about each of these areas — economics, politics, business, education, law, entertainment, the ‘arts’, and sports are among them. Scattered throughout the chapters, at appropriate places, are formal ‘Propositions’ put up for criticism by those who feel inclined.

These Propositions vary enormously in importance and relevance. To give some measure of my own assessment of their importance, most are followed by a number of stars, increasing

with importance.

It is perhaps inevitable that some of these Propositions will offend, annoy, or arouse antagonism in some. In a recursive twist to the book, I will also be looking at reasons why the mere presentation of such ideas can arouse antipathy and approval both.

Many of the Propositions presented will be simple. For this reason, they will be open to attack as being simplistic. My own feeling is that we should never underestimate the power and importance of simplicity. After all, five simple symbols, in the form $E=mc^2$, changed our world forever.

Ambition and Scope

The aims and scope of this work are very broad. On the theoretical side, the Matrix Model which is developed is underlain by the skeleton of a Unified Theory of human society. And on the practical side, a Matrix Toolkit is developed which goes some way toward providing a mechanism, first for the analysis of aspects of society, and then for the construction and revision of societal interactions. These deal, not exactly with human behaviour as such, but more with the interaction of other elements of society which will themselves be exposed in the following treatment.

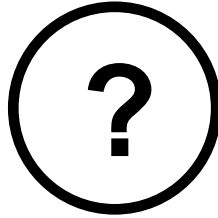
All these things are only different facets of a whole which I may refer to simply as The Matrix. All are part of what might be described as a powerful Intellectual Engine, one which, if it were a nutcracker, should be capable of cracking some pretty hard nuts.

Nevertheless, it should be emphasized that this Engine is but a prototype. I hope that its release to the World will encourage others to descend upon it, take it apart, improve, update, and extend its various parts, and perhaps even replace it completely with something better.

So this book attempts to dive into some pretty deep waters — the reader is advised to plunge only when equipped with the lifebelt of commonsense and the scuba gear of logical reason. In its consideration of society, this book is not about what is moral, but about what morality is; not about what we should do, but about what we could do; and in the final analysis, it is about what ‘we’ means.

And now, on to the fray . . .

Chapter 101



WHAT IS MATRIX THINKING?

If we remain imprisoned in the linear thinking so congenial to bureaucrats, capitalists, commissars, and aspiring gauleiters, the 1980s will be a period of unemployment, alienation, and unprecedented social crises.

— Barry Jones, *'Sleepers Wake!'*, 1981

Thinking about Thinking

The history of 'Thinking' is presumably in the realm of Philosophy, an area in which I am by no means expert. So here I will just make a generalist overview of some of the more important points.

The earliest thinking, going back to cave-man days, was presumably instinctive ("I hungry, I eat you"). With the development of civilization came more structured approaches.

The Ancient Greeks are well known for using the powerful tool of logic ("If A, therefore B"). Possibly they did not invent logic, but they certainly formalized it into a tool for looking at the world. As a corollary of logic came the paradox, a contradiction in logic, and hence a tool for testing the validity of logic.

In more modern times came the development of the 'scientific method'. This method embraced logic, and added to it further techniques such as experiment and observation, and the requirement for repeatability of results. A very important new facet was that of prediction ("If A applies, therefore B should happen — we'll try it and see").

These methods have served us well. Nevertheless, they can all be classed as examples of Linear Thinking. With linear thinking, there is a starting point from which all the rest proceeds — perhaps an assumption, an observation to be explained, or even a goal. Even Edward de Bono's Lateral Thinking, of which I am a considerable admirer, is still linear thinking. It is linear thinking which proceeds from an unexpected viewpoint.

Matrix Thinking is rather different. It tries to look at a situation from multiple viewpoints, as a complex and not necessarily analyzable Matrix. Often there will be no starting point, no

clearly defined logic path 'through' the Matrix.

How to Run a Company

Consider an example — the operation of business companies. There must be a hundred, a thousand, books written about how to run a company. Some of these will be very good, very detailed, explaining how best to manage staff, how to control cash flow and monitor productivity, and perhaps, on a more philosophical level, how to encourage innovation within the company and promote a good public image according to the ideals of the times.

And yet — look again. As far as I know, not one of these books even hints at the situation which Matrix Thinking would encourage, one which is close to the real situation. That is, one in which there is a *complex mix* or Matrix of companies of every sort.

Not only companies which are entrepreneurial, innovative, and progressive, with good labour relations, but also ones which are arch-conservative and backward. Ones which are founded on brilliant ideas but hopelessly managed, ones which are willing to act as test cases in clarifying legislation (read: 'somewhat crooked'), ones which are grossly undercapitalized, and so on through every permutation found in the real world and few not yet tried.

Even, and this strikes right against our instincts, companies which are very likely to fail, sure to fail, or even *designed to fail*. We never want the company we are involved with to fail, even though this may be of great benefit somewhere else in the Matrix.

The Matrix background to all this will be developed in this book. For the moment, it is sufficient to repeat that linear thinking implies not only a starting point but also a goal, a result, an optimum position. In Matrix Thinking there may be no such defined points.

The Scientific Method

The Scientific Method as practised in modern society is generally regarded as a supremely logical and rational approach. Leaving aside all the intrusions of politics and emotions which actually occur (and which will be considered in more detail later on) as 'distortions' of the True Way, it mostly is fairly logical. Fairly linear. But in one respect it is not.

That exception lies in the field of scientific 'models'. These are not real models, made of pieces of plastic or wood, but mind models, attempts to represent aspects of the physical world as though they acted like things we are familiar with in everyday life.

Examples are: talking about light as travelling in waves; thinking of a gas as made up of huge numbers of tiny elastic spheres (atoms or molecules); and representing atomic structures as consisting of interacting particles — electrons, protons, neutrons, and so on.

The erection of a model is perhaps the most powerful of all the tools in the scientific armoury. Once erected, a model may be subjected to continual refinement, improvement, or replacement. Older readers of this book may be able to recall when the atom was conventionally represented like planets in orbit round the sun. They may also have noted the evolution of this model, through electron shells, and into electron-density patterns (Figure 101.1).

Of course it should always be borne in mind that these models are only models, they are not the 'real' thing. So it is quite permissible to have two different models to represent different aspects of a single real entity. The wave model and the particle model of light are common

examples of this, models which are quite contradictory to each other but which may both still be validly and usefully applied in different circumstances.

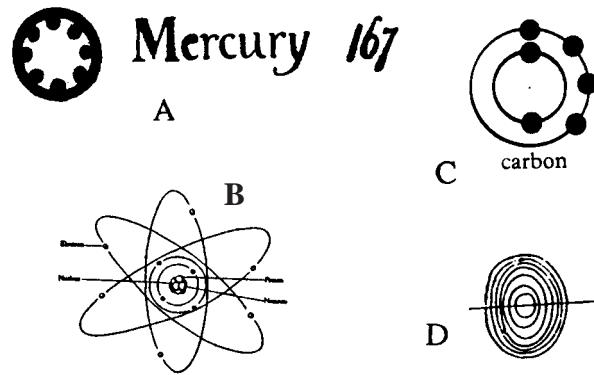


Fig. 101.1 Older and newer representations of the atom. A: One of John Dalton's original symbols; B: The planetary model; C: The shell model; D: An electron-density map

The Fount of Creativity

The testing and refinement of scientific models is subject to the same linear logic as the rest of science. But the *creation* of these models is not; in almost every case, the origin of a startling and powerful new scientific model is the product of an 'inspiration', almost a religious 'vision', which 'pops into someone's mind'. Hence Archimedes leaping from his bath, shouting 'I have found it' to passers-by in the street, and Newton being literally struck with the idea of gravity, in the form of an apple falling on his head.

The creation of such models provides an example of Matrix Thinking in science. There is nothing logical or linear about it, it is almost as if a mind subconsciously squeezes and massages a bag of facts, and somehow, out of the whole bag, an answer pops out.

In fact most of the activities we think of as 'creative' are Matrix-oriented. This is an area of human thought about which very little is known or discussed. In this book I hope to gradually bring out the concept that creativity is tied up in some way with ability to 'tap the Matrix', rather than purely an individually-owned talent.

The first task in this book will be formulating some structure and developing some tools for the use of Matrix Thinking. Then we will be applying the structure and the tools to an examination of human society, with the aim of deriving new viewpoints. These may possibly lead to 'improvements' in human society.

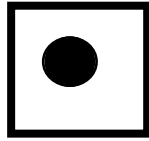
Whether a particular change suggested is an 'improvement' or not will be left for the reader to judge. Throughout this book I have tried hard to avoid pre-judging the issue, and saying what *should* be done in a particular situation. Instead I have limited myself to pointing out what the Matrix Thinking apparatus suggests will be the outcome of the application of various conditions. That said, I will not hesitate to put up Propositions which suggest that a certain

course of action is desirable. What I will not say is that any of these Propositions are unassailable.

From what has been said, it will be apparent that Matrix Thinking is not a replacement of, or competitor with, the linear thinking which Barry Jones warns us about. Nor is it a complementary or alternative approach. Instead, it is a *generalization* which subsumes and includes the thinking with which we are most familiar.

It has been said that we learn best by doing. And so, without further ado, we will leap straight into Matrix Thinking by creating a mind model, a model of human society.

Chapter 102



THE SUBSTANCE OF SOCIETY — INFOCAP

Accumulated knowledge, like accumulated capital, increases at compound interest
— Charles Babbage (1851)

The Chinese Connection

We stood beside the road in the tiny Chinese village.

It was 1979, and China was in process of opening up to the world. Tourism was tentatively being encouraged, but only under strict conditions. Tourists were allowed in only in groups, for formal ‘study tours’.

You didn’t choose the contents of your tour, or even know details of what it included before you went. Most groups visited factories, a kindergarten, a dam project, a collective farm, and a school, as well as typical tourist sites like caves, birthplaces of famous people, and museums.

Our group was a bit different to most, in that it was made up by lumping together a number of individuals who hadn’t started off as a pre-formed group, the Woop-Woop Womens Hockey Club or whatever. And so it had couples from Switzerland, Canada, the United States, and Hong Kong, as well as another couple from Australia besides my wife and myself. Most of us would have been classed as ‘professional couples’.

The Chinese guides on this tour were completely open and apparently willing to talk about any aspects of their society or ours. Although perhaps these tours did not extend to ‘sensitive’ parts of the country, there were no restrictions upon what we did, which shops or buildings we went into, or who we talked to, other than the sort of logistic constraints which affect any organized tour. We saw military aircraft parked besides civilian ones in the mixed-use airports, schoolchildren doing rifle practice on the high-school playing field, even two women in a stand-up, drag-down, hair-pulling fight in a Canton street.

The Hong Kong members of the group were all people of European origin who were living in Hong Kong. Several of them spoke fluent Cantonese, the local Chinese dialect. We had stopped at the small village, chosen at random as the tour bus drove along the road, at the request of some of the Chinese-speakers, so that they could chat with some of the villagers.

Nobody we encountered anywhere showed any reluctance to talk freely, or any fear of the consequences (in marked contrast to Russia, which we had also visited just previously). This openness encouraged us to ask how much some of these people earned — a natural curiosity which we would perhaps have held in check in a European country.

It turned out that none of these people earned as much in a month as some of the people in our group earned in an hour. This was true even for the tour guides, some of whom were also at professional levels, English-speakers who had studied at universities and in some cases were seconded or drafted from other positions for the tours.

Why the Gap?

Thinking about this situation led me to wonder about *why* there was this huge gap in earnings. Did the western visitors work more than a hundred times as hard as the Chinese? Obviously not. A hundred times more efficiently? Perhaps there was something in this factor, but it could not explain the size of the gap, over two orders of magnitude. Were the Westerners a hundred times more intelligent? No way.

Clearly it was true that the standard of living was quite different in the two cases. But ‘standard of living’ is only a *measure* of the difference, not an explanation of it.

There had to be more.

Nine Tons of Steel

“Behind every American stands nine tons of steel”. I came across this quotation when I was in my teens, and it has stuck with me ever since.

Here was another clue. The actual figure of nine tons, now no doubt completely superseded, was more than just an interesting statistic. It tells us something about American society, both the actual figure, and the fact that some American was moved to quote it.

There was more.

The Accidental Plastic

In 1956 I was one of a group of prospective chemistry graduates invited to visit some of the manufacturing plants of Imperial Chemical Industries in England. This was part of ICI’s graduate employment scheme, to show what they did.

We saw the site where the ubiquitous plastic, polythene, was discovered, as a result of a huge accidental explosion. Some keen-eyed clearer-up of the wreckage spotted the lump of new-born polythene, and was bright enough to realise what it meant.

This was at the huge plant at Billingham, County Durham — a traditional site with miles of snaking pipes, smokestacks, acres of vast plant, all grouped round the original farmhouse which still stood on the site. It had grown like Topsy.

We also visited another site, at Wilton. Wilton was a modern, clean, specially-designed plant, all nicely laid out and with trees planted among the chemical structures. ICI management were justifiably proud of its appearance and safety.

They were also proud of its efficiency and economy. This was partly due, we were told,

to the exceptionally high capital investment per worker — around 30,000 pounds sterling per worker as I recall — which was far higher than the average for the chemical industry.

Another clue.

And the Meat's Gone Bad

One of the topics I have always followed with interest has been that of human languages, and the process of translating things from one language into another.

Back in the 1950s, there were great strides made in the development of computers. Originally used for scientific calculations, and then business calculations, computers have since spread everywhere through our society. Even back in the fifties, there were efforts to translate between human languages using computers, and it was confidently predicted that the day of the human translator would soon be over.

That was almost 40 years ago, and, of course, it just hasn't happened. There is the oft-quoted story of the computer told to translate “The flesh is weak, but the spirit is willing” from English into Russian, and back again. The end result was “The meat's gone bad but the whiskey's OK”.

Why have computers not achieved the early machine-translation expectations? The answer lies, I believe, in the fact that accurate translation from one human language into another demands much more than even the most complex set of rules, such as can be programmed into a computer. It also requires a huge ‘database’ of social context and human experience such as at present only exists in the human mind.

When such a database can be successfully set up in a computer, then, and only then, will machine translation be as satisfactory as human translation for all purposes. Of course, when this stage is reached, the computers may be clamouring for equality with humans — and by then may deserve it. But that is another story.

The last clue.

The Infocap Story

What is the common thread among all these clues? In the last three, there is a clear element of backing by *something of value*. With American steel, it was a matter of a material, though this was only a symbol of something wider. With the British chemical company, it was a case of capital invested. And with machine translation, the limitation was lack of a database of information.

This leads us to the first major element in our model of society, the concept of Infocap. The suggestion is that society contains, as a fundamental reactive part, a substance which influences and determines the operation of areas of that society.

In this book that substance has been assigned the name Infocap. At this stage, an exact definition will not be attempted — it is purely a postulated mind-model element, and its clarification must depend on exercising the model to extract its properties and characteristics. But the concept is a very broad one, assumed to include all the commonly accepted thing-value items in society, such as capital invested, information resources such as libraries, computer databases, patent rights, buildings, roads, plant, and vehicles.

The concept also includes such people-value things as received education, gained expertise and experience, governmental infrastructures, laws, computer programs, and tennis ability, and further extends into more diffuse areas such as results of mineral exploration surveys, stable political systems, climates, and healthy ecosystems.

The symbol used for Infocap in the model will be a square box with a dot in it.

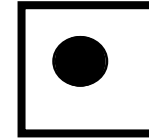


Fig. 102.1. The Infocap symbol

We can also mark this point with a formal Proposition:

Proposition 102A.**** *Human societies contains an information- or capital-rich substance, assigned the name infocap, which exerts a major influence in the operation of those societies*

We now return to the question posed at the beginning of this chapter. Why does the average Chinese earn so much less than the average Westerner? We can get an answer by postulating one of the properties of infocap:

Proposition 102B**.** *The infocap content of an advanced society generates, of itself, a growth element or dividend which provides the bulk of the running costs of that society*

Does this provide a reasonable answer to the question? Think about it. Imagine a particular country as a black box with only a few indicator dials on the front, one of which is marked ‘Infocap’. Pour a jug of infocap into the funnel at the top, and watch the dial. Does the Infocap Dial register the extra amount poured in exactly? Does the total then slowly increase on its own, or does it fall back gradually?

Of course the above image is only a generalization of situations we are already familiar with, things like pouring aid services into a poor distressed country, injecting more capital into a manufacturing company, or simply placing money on deposit in an interest-bearing fund.

In the last situation, we would certainly expect our ‘infocap’ to increase. And yet, if the fund is an equity-linked fund based on share market holdings, the value of those shares may fall and so the infocap content may also decrease. Even if the shares retain their values, and also yield dividends to the fund, there may be fund management charges which more than eat up those dividends. And of course if the fund or its management company goes bust, the infocap may disappear completely.

The Ambitious House

Some years ago, in a period of rising house prices, I happened to notice that my house was earning more than I was. I had to go out to work five days a week for my money, it just sat there smugly getting richer and richer, without turning a finger. It kept that up for several years.

And so with China, or America, or any other two countries you want to compare. The infocap content of China is far below that of America, especially on a per-capita basis — it would be interesting to work out whether each Chinese was backed by as much as 90 kilograms of steel!

Of course it is not as simple as just comparing standard monetary reserves if we want to compare the true 'infocap' economies of two countries. In the model, money is just one element of infocap. Even more important is how the country treats its infocap dividends — are these keeping up with running costs, falling behind (giving a net infocap decrease), or being partly ploughed back into the country?

Then there is the interesting question of *measuring* infocap. So far, we do not have a real Infocap Dial on our box to do this for us. We will see later that measuring infocap is a complex goal, but will make some progress towards achieving it.

Keeping Up with The Joneses

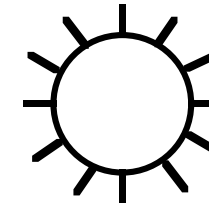
Even if a country is using only its current infocap dividends for running costs, and so could be expected to at least 'keep place', there is the question of rising expectations. These rising expectations stem not just from its own population, but also from outside. Is it right that the health levels in some African countries should be so low? Shouldn't the governments be obliged to do something about it? Even if the health of the population is good, can they ever expect to get ahead when most of them don't even have radio, let alone television, to keep them aware of the world?

We will go into questions like this in much more detail later. But it does seem to me to be a possible cause for the unfortunate fact that, where countries are concerned, the Rich Get Richer and the Poor Get Poorer. The poorer countries just don't generate enough infocap dividends even to cover what we would regard as the bare essentials. And as what we regard as 'essential' increases in amount and proportion each year, lifting our thresholds, they fall further and further behind.

Proposition 102C**. *As time goes by, poorer countries are increasingly disadvantaged as their infocap dividends become progressively less able to cover rising threshold expectations*

That is enough for now to introduce the concept of Infocap. Let us move on now and look at the second elements of the Matrix — the entities which contain the infocap.

Chapter 103



THE HOUSE ON THE POLISH BORDER — About Systons

It was time for a new and more accurate survey of the border between Russia and Poland, and the survey team, equipped with the latest laser theodolites, were working their way through a border forest.

Suddenly they came upon a problem. There, in a glade right in the middle of where the border would run, was Josef's cottage.

"Look, Josef", said the leader of the survey team, "we have a small amount of discretion with the survey. It's too complicated to have a building half in one country, half in another. You can choose where you would like to be, and we will draw the border accordingly".

Josef thought for a moment, then brightened. "Better put me on the Polish side", he said. "I just couldn't stand another one of those Russian winters!".

Only Joking . . .

That was a joke. It was, perhaps, a serious joke, a joke with a serious purpose. I am a bit cautious about using serious jokes, since not everybody has the same sort of sense of humour, and this can lead to problems!

Whatever, the point in bringing it up here, is to ask, why is it a joke? Well, of course, as in many jokes, it is funny because the fleetingly plausible punchline is ridiculous. The act of drawing a border, assigning a name to a bit of territory, does not affect its physical conditions directly.

And yet the assigning of names and boundaries can be vitally important to people, even if the assignments do not have any obvious administrative consequences. In Perth we had an interesting example of this, concerning locality names.

A Rose by Any Other Name . . ?

In the opening up of a new housing area, the buyers of a large number of new building plots

were horrified to discover, well after the event, that these were officially in a location we will call ‘Ramshackle’, a suburb not seen as very prestigious. The buyers had thought that the blocks were in an adjacent suburb, ‘Money Hill’, with a much better ‘name’.

The buyers protested, and with some justification, that to be in Ramshackle meant that their properties would be worth much less on the open market. This was purely a matter of the name; both suburbs were only locality names within the same local authority area, so local services and rating charges were not in question. But it was still important for the residents to be placed in the more prestigious suburb. Unfortunately, there were problems with this, too.

The planned outcome is for the local authority to create a third, new, locality name for the new subdivision. This new name will then have to make its own way in the prestige stakes, find its own price level.

That is fair enough, but it does provide a clear case of where Shakespeare’s assertion, that “A rose by any other name would smell as sweet”, falls down when we get into the difficult area of human relations.

This brings us directly to the second major element of the model of society we are building.

The Syston

Everyone is familiar with the many groupings into which human society is divided. We are members of families, of states, of countries. On a wider basis, we are members of a particular biological species, *Homo sapiens*.

Most of us will also be members of other groupings. We may belong to particular clubs or associations, be members of particular business firms, government departments, or schools or universities. We may be believers in particular religions, supporters of particular political parties, or genetically allocated to particular ethnic groups.

In this book, the general name used for all these groups is the Syston. The term implies that the group has some degree of definability, however imperfect. Within the society model, there is also the assumption that each syston has some degree of self-sustaining or self-perpetuating ability. The symbol used for the Syston in our model will be a circle with twelve spokes.

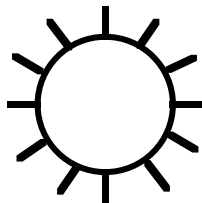


Fig. 103.1. The Syston symbol

We should formally set up the element with a Proposition:

Proposition 103A.**** *Groupings of human beings in society can be represented as Systons, self-sustaining model elements following particular behaviour patterns*

We will develop the concept further as we go along. We can look forward to certain advantages as we define, refine, and develop the fine structure of the Syston. One of the most important of these is that we can expect to bring out rules which will apply across systons generally, and which will clarify the interaction between systons.

Proposition 103B.*** *Rules can be developed which describe interaction between systons, and these rules can be modelled in a generalized society model*

As well as the term ‘syston’, on occasion in this book I will use the term ‘systel’. This implies a syston element of any sort. A systel may itself be a smaller syston, or may be an infocap box, or some other entity.

Josiah Entwistle, Haberdasher

Imperceptibly, over at least the last hundred years, there has occurred an ever-increasing trend for human groupings to become more formalized and more circumscribed. Take the area of retail trade.

In the first half of this century it was normal for someone running a shop or business to operate under their own name. When Mr Entwistle decided to leave his employer and strike out with his own haberdashery business, he rented premises and put his own name and the nature of his business up over the shop.

Nowadays, of course, the name over the shop will read “Chic Chick Boutique” or something similar. And there are good reasons for this. The Chic Chick can be sold as a going concern to a new owner, and if the existing staff are retained, the public will not notice any change. The actual name will form part of the ‘goodwill’ component of the sale — and can be quite a substantial asset. The name can even be franchised, the owner of it can license other people to use it on their own stores.

Accompanying these advantages is an arguably inevitable need for increasing government control over the use of such names. A fee must be paid to register and retain the name, the name must be different to others previously registered, and so on. And there are requirements that the names not be misleading — use of words like ‘Bank’, ‘Government’, or ‘Official’ would be hard to get registered without real justification.

What it comes down to is that a business like a clothes shop has typically changed its nature over the years, from being something attached to a particular person or family, into an entity of its own — a syston. It can acquire enough infrastructure, enough infocap, to be able to function as an independent organism. And as human society has developed, so have these systons increasingly coalesced out of the general matrix, in every field of human activity. Accompanying this change has been an increasing number of government regulations to control these new entities.

Proposition 103C. As society has developed, increased formation of human groupings into formalized systems has occurred*

Proposition 103D. The rise in the number and variety of systems has been accompanied by a parallel rise in government regulations and laws to control them*

Systems, Systems, Everywhere Systems

We now pass on to look at examples of the vast range of systems which have come into existence in the modern world. Some of these systems date back to the earliest biological origins. The family is the most familiar example, this existed well before man had even begun to evolve.

What is the simplest form of system? Before even the family, there existed what we might regard as the simplest and most basic system of all — the individual. At first sight this seems to be the limit — the person, the idiosystem; we can't break that up and still have the elements of self-organizing ability required for a system.

There is a valuable examination of this area in Lyall Watson's book *Lifetide* [1980]. Watson shows how even what we regard as the indivisible minimum, the single individual, is in fact a composite. The human body contains at least three independently evolved sets of the genetic building blocks DNA, and is almost certainly a symbiotic assembly of different creatures which learnt to live together in the remote past. Nevertheless, on the present model, the individual person or idiosystem is still probably the minimum level of complexity to qualify as a system.

The Distant Lizard

When we move lower down in the evolutionary scale, at some stage we reach a level of simplicity at which the individual creature can no longer qualify as a system. An individual ant, for example, is not independent enough, it does not contain enough info-cap, to qualify. With ants, an entire ant colony — which may contain millions of ants, together weighing more than a man — is probably the minimum for a system.

Like most lizards, the large Monitor Lizards in the genus *Varanus* depend on the sun's heat or other ambient warmth to hatch their eggs. Because of this, most of the species are restricted to warmer parts of the world. However, there is an exception.

This exception, a *Varanus* species which is found in South Australia, has developed a unique way of hatching its eggs. At laying time, it digs a hole into one of the local termite nests, lays the egg, and covers it. For some reason the termites do not object to this intrusion.

The point is, that termite nests are accurately temperature-controlled, air-conditioned as it were. Individual termites have little personal protection, and cannot withstand sunlight or cold air for very long. The whole termite nest is a single system, the individual creatures being specialized to act as the equivalent of such things as blood cells, gonads, or liver in a mammal. Like blood cells, individual termites can survive unprotected outside their 'body', but not for very long. The development of temperature control in termite nests is a significant evolutionary advance — the equivalent of 'warm-bloodedness' in mammals. But it is an advance which

has occurred at system level, and this level is above that of the individual termite.

Being Aware

Watson suggests that it is only at the level of the vertebrates — essentially starting off with the simpler fish — that 'awareness' is attained in the individual. This threshold in the scale may also be the limit to qualify as a system. Watson also gives many interesting examples of 'composite' creatures, such as simple single-celled amoeba-like individuals, normally free-living but able to come together to form a 'fruiting plant' which grows a spore body on a stalk. Then there is a snail which can absorb chlorophyll bodies from plants, and continue to keep them functioning and producing energy in its own body. And there are the vast 'colony' creatures such as corals.

When it comes to human society, all the systems we will be looking at, apart from those of individual persons, will be composite or 'colony' entities. But we will continually draw from the example of the idiosystem to work out the rules applying to systems as a class, and we will often be able to generalize a familiar rule-of-thumb for the person to cover a much wider entity.

My Country, and Other Systems

After the self, the most clearly defined systems in modern human societies are those of countries. Being a 'Citizen' of a given 'State' has probably a greater influence on the life of an individual today than does any other system membership. And probably this relative influence is the highest it has ever been in history.

It was not always so. And it may not be so in the future. All the paraphernalia of passports, exchange control, reciprocal treaties, and the like, is a modern phenomenon, little of it going back much more than a hundred years. Livingstone and Stanley needed no passports for their journeys in Africa.

From the point of view of Matrix Thinking, the present situation appears as a natural stage in the development of the country-system. Like a young child, continually testing its parents to see how naughty it can be and still get away with it, country-systems are continually testing and seeking to define their limits and their powers. With increasing maturity, the passion of this urge may diminish.

We can generalize the situation with more Propositions:

*Proposition 103E***. All systems continually seek to monitor and define their boundaries*

Proposition 103F. Still-maturing systems have the greatest urge to 'defend' their boundaries and exclude or include potential systems*

Between the Country and the Self, there are intermediate systems, some of which have a very ancient history. Before civilization, we had the tribe, a grouping of intermediate numbers of people usually linked by some common gene pool. In modern society, this system has disappeared — either the tribe expanded, colonized, and absorbed to reach the status of a nation, or it was itself absorbed. Still, relics of tribalism linger on, even in 'modern' countries.

It does appear that there may be a natural ‘stability point’ in human groupings, say around 100,000 persons, at which a ‘tribal system’ may tend to coalesce out.

In Australia, the United States, and many other countries, the system immediately below that of the country is the State. The powers and degrees of independence of such States vary very considerably from one situation to another. At one extreme the State may be little more than the fraction of a larger true country-system which happens to lie within some administrative boundary. At the other it may be a potent state-system with a degree of independence which makes it virtually indistinguishable from a country-system.

The recent upheavals in the Soviet Union and in Yugoslavia are potent examples of what can happen when the country/State power balance is undergoing an abrupt rather than an evolved transition. It is interesting that, in fact, the whole ‘modern’ tendency is to move this balance point downwards, towards decentralization. We will see later that this tendency may be greatly strengthened in the years to come, to attain a situation which has no real parallels in the past.

Beneath the level of State, province, prefecture etc, most developed countries have a third level, that of local authority. Again there is a range of names in use – county, city, council, and so on. In Western Australia these third-level bodies are called shires — an interesting survival of a word which has fallen out of use where it originated, in England. And, as with the second, State, level, the shire level of government varies greatly from place to place in its power, autonomy, and function. For example, in many places such things as public education and shop opening hours are essentially determined at shire level. In Western Australia they are not, the State has still hung on to these powers.

Exclusive and Voluntary Systems

The sorts of system involved in such entities as country, State, and shire are essentially exclusive systems. These are basically bounded by geographical considerations, so that if one has a house in the Shire of Sandstone in the State of Western Australia, this house cannot simultaneously be in the City of Blue Mountains in the State of New South Wales.

However, the majority of systems in which people are involved are non-exclusive. An active member of a modern society may be involved in tens, or even hundreds, of different systems — the whole gamut of different groupings of every sort which have grown up in the structure of that society. Systems can also be divided up according to how a member becomes a member.

Many of the ‘older’ systems of which an individual is a member may be involuntary — genetically-based ones such as ethnic origin or gender are examples. Others may be by default, such as family, or country of citizenship — these can be changed, but do involve some special action. And the vast arrays of systems in a modern society — and it is the existence of these arrays which makes the society ‘modern’ — are essentially voluntary. These include all the groupings active in the workplace, vocational groups, and leisure and social groups. Interestingly enough, membership of a religion system is usually by default.

Of course most systems are intricately involved in a grand and complex scheme of overlappings and enclosures which extends to embrace the whole planet in the ultimate Matrix

— what we might call the Holosystem. As well as the systems, the whole Matrix also involves a tremendous amount of infocap — scattered, shared, divided, within and among the systems.

We have now arrived at the point where we can set up a visual representation of our first, simplified Matrix model, based on these concepts (Fig. 103.2).

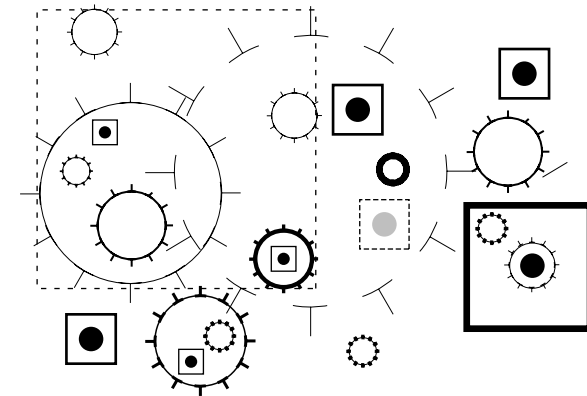


Fig. 103.2. The basic system/infocap model of a matrix

“Australia, You’re Standing In It” — Which One?

Most of what now follows in this book is concerned with analyzing the characteristics and behaviour of human systems, to derive rules by which the operation of human societies can be understood, possibly predicted, and perhaps improved.

The first steps for any given analysis are to recognize the systems involved. This is crucial, absolutely basic to the Matrix Thinking approach. To analyse what is happening in the play, we must first know who the players are.

Proposition 103G*.** *In a matrix analysis of a situation, the first step must be to recognize the systems involved*

There is a difficulty here. It has been said that in order to talk about things, we must first have names for them. And names we do already have for most systems, plus an immense capacity for creating new names to order. But these names do not always identify the systems clearly.

Consider two headlines: “China’s Agricultural Output Up”, and “China Rejects Peace Talks”. The Chinas referred to in these two headlines are completely different systems.

The first system is evidently a rural production system, one of great size and complexity, involving millions of people. The second would have to be a very small system — perhaps even a single person — within the Government of China.

Other headlines such as “China Battered by Typhoons”, or “China Wins World Cup”, refer to different ‘China-named’ systems again. The point is, that while most people can easily

understand on reflection that completely different ‘China’ players are involved in these four headlines, the use of the same name for all must involve some confusion, or worse.

Perhaps the initial reaction to such an assertion, if accepted, would be to say that these examples are only headline capsules, and we could and should expect the entities involved to be more explicitly named in fuller text. And, of course, distinctions are made — “Beijing Rejects Peace Talks” is an alternative to the second example, one which brings out the difference.

I Can’t Stand those Americans

Syston levels play a basic part in human interactions. Everyone will have met someone who, say, gets on well with individual Americans they know, but can’t stand Americans. This apparent paradox is resolved when it is realized that different systons are active in the two cases.

Examples are everywhere. Many South Africans find Australians to be friendly and helpful, but find Australia to be obstructive, officious, and unpleasant. It is quite unhelpful to confuse the two systons, and important to make the distinction.

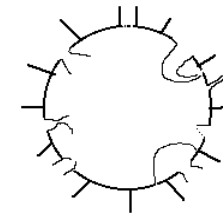
A useful technique is to look for ‘trigger’ words or phrases in what you read or hear. These triggers usually involve ‘we’, ‘they’, ‘should’, or ‘must’. Other trigger words are things like ‘policy’, ‘practice’, ‘believes’, and ‘unacceptable’. So when you next come across “Australia must change its attitude” or “the Company believes we should”, it’s useful to work out who, or what, is really active.

Here is a suggestion. When you next pick up a newspaper or a novel, or switch on to a radio or television programme, look a little closer at some of these trigger and syston words, and pick out what grouping they really refer to. The same syston-word may be used for many different groupings, and this leads not only to confusion in ideas, but also to problems in attitudes.

Do this a few times, and it soon becomes easy, and then second nature. Then when you read that ‘the government’ has done this or that, or should do this or that, you will have a much better idea of the underlying entities actually operating. This is a basic part of Matrix Thinking.

We can now move on to look further at one of the basic attributes of a syston, how it maintains and uses a fundamental component, its skin.

Chapter 104



I’VE GOT YOU UNDER MY SKIN — Syston Boundaries and SIOS

“Morality knows nothing of geographical boundaries or distinctions of race”

— Herbert Spencer

Danged Furriners from Lunnon

In the earlier years of my life I lived in a tiny village in the English countryside. It was an area with its own strong local dialect and traditions. Public transport was very limited — one bus a fortnight came to take people to market day at the nearest market town.

In a sense the village was very isolated, and its inhabitants sometimes had isolated outlooks. I remember one old local, born and brought up in the village, complaining about the bad effects of visitors from the outside world. “They danged furriners comes down yere from Lunnon and ruins everythun”, he said.

I recently looked up a map and measured the distance from this village to the despised London and its malevolent visiting ‘foreigners’. It was 40 kilometres. Yes, a mere 25 miles away from Tower Bridge in the heart of London.

Now, of course, the perimeter fence of one of London’s airports backs up right against the village houses. The new generation of locals, many of whom were ‘foreign migrants’ themselves from 30 km away a generation ago, complain about being overrun by city folk from the sprawling ‘new town’ 15 km away, built beyond the London ‘Green Belt’ to house some of the overflow from the capital. And who can blame them, or say they are acting unreasonably? Their way of life is under attack.

Here, in a microcosm, is a picture which is repeated all over the world, at every sort of scale. The essence of the picture is the boundary of a syston — what we might call the ‘syston skin’.

The Skin Game

The skin is said to be the largest organ in the human body. Far from being a simple impermeable covering, it is a marvel of complexity, responsible for such vital functions as

temperature regulation, food storage, and a host of sensory input/output functions. And it can have great decorative value!

The skin is the very obvious human-individual system boundary. In the model we are building, every system will have a skin, and the properties of this skin will be fundamental in determining the behaviour of the system.

First You Dress Like Them

My grandfather once gave me this advice: “If you want to get on with people, first you should dress like them; then you should talk like them”. Everybody will be able to recall situations at work, in business, or in clubs where this advice was good advice. I remember reading an article about business overtures to the founder of a huge British electronics retail chain, a man who had been brought up in humble circumstances in the East End of London.

The tycoon was suspicious, rejecting all emissaries, until one arrived who swore ferociously in good End End style. The two got on together immediately. “He talks my kind of language” was the tycoon’s comment.

Why is the man with a pony-tail and wearing an open-necked checked shirt not taken seriously at board-room levels? He ‘doesn’t fit’. He’s not wearing the expected *de facto* ‘uniform’.

This is another way of saying that he is not putting out the right visual signals to identify himself as a member of the current group.

The Immune System

Human beings have highly-developed immune systems. Possession of an immune system is a characteristic shared, according to Lyall Watson [1980], with all vertebrates, from the humble hagfish up. In fact, he regards this feature, and its accompanying feature of being able to recognize individuals, as basic to the concept of ‘self-awareness’ in a creature.

As we go on we will come up against instance after instance of immune systems, operating in systems at every level. Although in humans many of these immune functions are not actually in the skin, in our general model we can place these immune functions just under the system skins and regard them as part of the protective/selective/sensory functions of the system boundaries. We can then go on to extrapolate and generalize these skin functions for all systems. But first we should mark our position with a formal Proposition:

Proposition 104A*. Systems possess boundaries or ‘skins’ which operate protective, sensory, selectively-permeable, and immune functions for their good functioning***

This Proposition is, of course, closely related to Proposition 103E, which stated that ‘All systems continually seek to monitor and define their boundaries’. But now we are at the stage of looking at the operations which go on at the system skins, and how they are carried out.

As usual, we can start with an example based on the human idiosystem, that of transplant rejection mechanisms.

A Feeling of Rejection . . .

Just as a member of a human group is very quick at recognizing an ‘outsider’, someone who does not ‘fit’ into the group, so is the human body capable of picking up intruding ‘foreigners’. And the body possesses an incredibly complex and extensive series of mechanisms to do this, the extent of which is only now being seriously explored.

Of course we all know about the white cells in the blood which pick up intruding ‘germs’ and destroy them (usually by eating them). The idea of ‘inoculation’ against diseases with a weakened or killed strain, to build up ‘antibodies’ against a future attack by the full disease, goes back to the English doctor Lister, over a century ago. Lister noticed that milkmaids who had had a dose of a mild disease, cowpox, were protected against attack by its far more virulent relative, smallpox.

In modern times we have had the onslaught of AIDS, the Acquired Immune Deficiency Syndrome, now known to be caused by a virus (or viruses) which directly affects the body’s immune systems and make them less effective against the waves of potential invaders continually washing up against the walls of our idiosystems.

As well as the invaders from without, the immune system is also set up to deal with the infiltrators from within — previously ‘loyal’ cells which have gone ‘bad’ through poisoning or some other reason, and have started to misbehave. Cancer. Slowly the realization is growing that the dreaded afflictions called cancer are not ‘caused’ simply by attack by organisms or pollutants or radioactive substances. Instead it seems that one, or a combination, of these or other factors is sometimes able to make particular immune systems less effective in their routine work of detecting and neutralizing ‘rogue’ cells.

Proposition 104B*. Cancers occur when cancer-recognition and neutralization mechanisms in the body become less effective

Even today, with notable advances in treatments available, cancers are the cause of many deaths — the idiosystem breaks down and ceases to exist. An interesting area, which we will dwell more on later, is the ‘holistic’ approach to health, the idea that the smooth functioning of the idiosystem as a whole is important to individual health. Here we will just highlight an implication of this, which is that the concept of ‘rogue cells’ as the focus of cancers is too simplified for accuracy; instead, as when a metal structure is overstressed, these places are just the points where the overstress finally becomes visible.

The recent advances in transplanting organs from one person into another have been based on a better understanding of why transplants are rejected, or how the immune systems operate. The rejection-suppression drugs used are able to reduce the body’s ability to recognize and reject tissues from another person. Clearly these recognition abilities have a strong genetic basis, as they scarcely operate in transfers between genetically identical twins.

The downside to rejection-suppression drugs is that invading disease organisms, as well, may not be rejected as they should. Hence the need for a transplant patient to be shielded from exposure to such diseases as much as possible in the early stages.

There is another area where normal rejection mechanisms need to be suppressed, and this is not a recent development, but one going back almost a hundred million years into the past.

Giving Baby a Good Start

Human beings are, of course, members of a highly-evolved animal group, the mammals. Mammals are animals which produce milk for their young. Most mammals are placental mammals, where the newly-fertilized and developing egg cell in the female attaches itself to the womb lining and grows a structure called the Placenta. Through the placenta the growing embryo continuously receives a stream of nutrients and services (such as removal of waste products), right through from the time when the placenta is first formed, up until birth, when the placenta ceases operating and is itself expelled (the ‘afterbirth’).

Animals which produce eggs, such as the birds, and those primitive Australian mammals the Platypus and the Echidna, clearly do not form placentas. Nor do other lower animals which give live birth, like the Bobtail Goanna, one of the many Australian lizards.

When you look at it, the mechanisms evolved to produce placentas are really quite unique in animal physiology. The fertilized egg in a female is genetically a mixture from both its parents, and in the ordinary course of events would be recognized as a foreign invader by its mother’s body and rejected. Instead it is not only accepted by the womb wall, but is actually hooked in to function as part of the mother’s physiological system, sharing a supply of blood and other body fluids.

Moreover, experience with artificial insemination in cattle and with in-vitro fertilization in humans shows that there is no requirement for even some of the mother’s genes to be present in the attaching embryo. It seems that any womb from a member of the same species will do, perhaps even a womb from a related species. And the possibility has been raised that a working placenta may be formed if an embryo is attached to a tissue within a male of the right species.

Not Only Interesting — Useful Also

This excursion into studies of animal physiology has been undertaken for a purpose. As we progress in this book, we will find that there are analogues to the body’s immune systems operating and forming essential parts of other systons, systons at every level.

As already mentioned, one of the approaches used in Matrix Thinking is to generalize experience from one syston and see how it is applicable to other systons throughout the matrix. In what follows, we will often be able to recognize immune systems operating in the different areas we look at. In some instances we will be able to recognize the operation of placenta-analogues, especially when we look at how systons reproduce in Chapter 110, on syston budding and merger.

The SIOS Concept

In what follows, we will find example after example of how important it is for a syston’s immune system to function ‘correctly’ if the syston is to remain ‘healthy’. Because the immune system is really a sort of selective filter arrangement, letting some things in and

blocking others, it is really a matter of observation as to whether the filtering is correct — is the syston working well? And will it continue to operate as well, in the future, or is it in the process of falling back?

It seems to me that a common feature of many systons is that their immune systems reject more than they might do, if the longer-term good of the systons was considered. We call this reaction by different terms for different systons — racial and sexual discrimination, bigotry, vested interests, chauvinism, selfishness.

We need a term to generalize this feature for any syston. I will use the acronym SIOS, for Syston Immune Overreaction Syndrome. We can mark the situation with a Proposition.

Proposition 104C. Syston immune systems may reject more than is desirable for the future good of the syston, displaying a Syston Immune Overreaction Syndrome

Now here is a Proposition which, for once, is undoubtedly true. But it is a bit of a cop-out. Logically, it is only saying that something which is overdone is overdone, it doesn’t tell us when that point is reached. For the moment, it may be best just to accept the possibility that a syston feature which we will call SIOS can exist, and try and bring out more about its nature and effects from looking at real circumstances.

The reader will have noticed that most of the usual attitudes classed within SIOS have a negative tone — discrimination, bigotry, selfishness. But we started off from the view that SIOS was a manifestation of an immune system, a desirable and perhaps vital part of a syston’s makeup. So where do we draw the line?

Well, as always with Matrix Thinking, there is no line — there are only a number of weak and fuzzy tracers, each one based on a different underlying assumption. Each assumption may have the basis that some particular action will be to the good of the syston, at a given period. Alter the action, the period, or your definition of ‘good’, and the tracers will move too.

Something to Work With ...

The danger in trying to work with a situation like this is that if you are uncertain as to how to make a decision, you may bog down in doubts and make no decision, and that can be the worst decision of all. So I will put forward another Proposition, to provide at least a working basis.

Unlike the previous one, this a real Proposition. I do not know whether it is valid or not. I think it at least merits some trying-on for size, in the situations we will encounter later in the book.

The suggestion is that the basic function of what corresponds to an immune system in human systons is to hold the syston together, to enable it to retain its identity as a functioning entity. But, like eating more than you need, because you need to eat anyway and it is hard to know when enough is really enough, the immune mechanisms can be overdone, leading to SIOS. So the dividing line comes where you are doing more than the minimum necessary to achieve the main purpose.

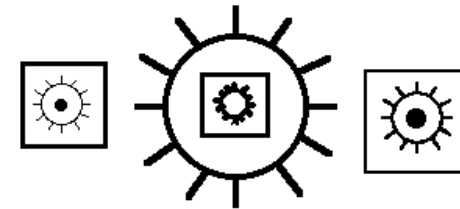
Proposition 104D***.** *For best operation, a syston will reject only the least amount of outside influence, the minimum needed to enable it to retain its identity as a functioning syston*

Clearly this Proposition, if accepted as valid, has far-reaching implications over every aspect of human society — migration, foreign loans, federal/state control, business financing, everything. An underlying assumption of it is that foreshadowed in Proposition 102B, that society contains a substance called infocap, and that this substance generates its own dividends which bankroll human activities. The implication is that the more infocap you have, the better.

This does give a natural lead-in to halting, for the moment, consideration of systons, and looking a little deeper into the other major component of the Matrix — into infocap.

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Chapter 105



A COMPLICATED RECIPE— Diversity and Infocap Content

“If we cannot now end our differences, at least we can make the world safe for diversity”

— John F Kennedy (1963)

On the Star Ferry

Crossing Hong Kong Harbour on the Star Ferry one day, I happened to reflect upon why the European-origin passengers looked so obviously different from the bulk of the Chinese-origin commuters.

It wasn't their skin or hair colour, it wasn't their dress, it wasn't even the difference in eyes — these were all fairly superficial. And there was no difference in behaviour.

Suddenly it struck me that what was different was the *degree of uniformity* in the two groups. The Chinese were far more homogeneous than the Europeans. They all had basically black, straight hair, physically they were mostly of slighter build, not especially tall. They had sallow skins. There wasn't a beard to be seen among them.

The Europeans, on the other hand, looked like mixed specimens from a zoo turned out into a field of sheep. Short fat ones, tall thin ones, ones with long blond hair, ones with tight red curls, black-bearded ones, they were all there — even some slight, not especially tall beardless ones with sallow skins. An exuberant show of genetic diversity.

In a way, it was like the situation in a carefully-formulated, complex alloy. Most of it would be made up of a single, uniform element — the matrix. Scattered through it would be atoms and aggregations of other 'impurity' elements, disturbing the chemical uniformity and the crystal lattice structure of the matrix.

It is worth pointing out that it is these 'impurity' atoms which give an alloy its special properties — perhaps superior strength or hardness, or better resistance to chemical attack. Often the composite material will have far superior, that is *more extreme*, properties than those

of any of its components.

We will go on to examine the Proposition that a similar situation applies with human systems.

Proposition 105A.** *Genetic diversity is an advantage for a human system*

The Civilizations of History

We know that at various times in the past, great civilizations have arisen on Earth in widely different parts of the planet.

Specialist historians have studied some of these civilizations in great detail. Their rise and their fall have been traced, and often detailed reasons can be adduced for these rises and falls — the success of a particular military campaign, the acquisition of valuable territory, the development or adaption of new techniques or technologies, and so on.

Some of these analyses are well documented and reasoned, and few would argue with them. However, the application of Matrix Thinking to this area will provide a different slant. Rather than asking for detailed reasons why a particular civilization or nation did well or badly, we can ask whether there are characteristics common to all successful civilizations.

I suggest that one of the most vital components for ‘success’ of a nation or a civilization is to have diversity among its component people. The current leader in world affairs, the United States of America, is well-known as the product of a vast racial melting-pot, a blending of genes, cultures, customs, and thoughts which has now been on the boil for several centuries. We could say that into this melting-pot has been poured, not only the individual systems represented by the people involved, but also a vast quantity of infocap in the skills and characteristics they carried with them. And out of this mix, like a new star coalescing out of interstellar gas, has come America.

Proposition 105B.** *The success of nations and civilizations is promoted by the possession of a wide, but blended, diversity among its people*

A century ago, the dominant world power was Britain, which had built up an empire stretching over all the continents. The history of Britain is a history of wars and invasions. Ancient Britons, Celts, Romans, Angles, Saxons, Vikings, Normans — a sweep of peoples, of genetic pools, pushed back and forth, inevitably intermingling, with few parallels in known history. And when the Empire was being built, it made use of a most powerful technique in creating a stable entity. This was integration, integration of systems at every level, from people to whole pre-existing states and nations.

There was no attempt to create a slave caste, an underpeople, in these British colonies. Instead the native leaders were knighted and encouraged to send their children to Britain for education, armies of missionaries went in to set up schooling and introduce modern medical practices, engineers went in to set up improved transport, communication, and sanitation systems.

Of course there were still terrible discrepancies in wealth and social conditions, and at

times great injustices, crippling disasters, and huge bloodsheds. But these happened against the tenor and ethos of the Empire, not because of it. The way was open, in principle at least, for any citizen of the Empire to do well in their chosen field, to travel freely and work elsewhere in the Empire, to buy land and occupy public positions without any reference to their origins.

Many of them did just this. And so there was inevitable large-scale genetic intermingling as the English planter ‘went native’ with a local wife, Indians moved to East Africa and Fiji to set up shops and businesses, and, somewhat more recently, Jamaicans and Pakistanis sailed to Britain to run the buses and hospitals.

The same thing can be noted in earlier civilizations. Like the British, the Romans were the product of racial mingling, a people built on the dispossession of the earlier Etruscans by other tribes. And again as with the British, a vital component of their later empire-building policy was that conquered people could strive to become full citizens of the empire.

Before the Romans, the Greeks too were the product of large-scale tribal mixing [eg. Kitto, 1951]. And in spite of their current comparative uniformity, the Chinese too were the subject of immense mixing in long-past centuries.

This brings us to another interesting question, which is that of the *life-cycle* of a civilization. We can distinguish a number of stages:

- Stage 1. Genetic aggregation (System mergers)
- Stage 2. Genetic blending (System consolidation)
- Stage 3. Internal enrichment (Infocap creation and accumulation)
- Stage 4. Expansion of boundaries (System absorption)
- Stage 5. Repeat(s) of stages 2-4
- Stage 6. Degeneration and failure (Infocap decay and devaluation)

The general point to be brought out is that a civilization is just another sort of system, and so should obey general system characteristics. In particular, it should have a half-life, an average time by which half of all the entities in its class will have completed their life-cycle. The position is complicated by the fact that it is sometimes difficult to distinguish between the cycle of a full civilization and that of an expansion phase — whether Stage 5 appears or not, and if so, how many times.

Even so, from past history it would appear that a first-approximation value for the half-life of a civilization would be around 250 years. Obviously some may last much longer, others less.

Proposition 105C.** *A civilization is a type of system and so will obey system behaviour rules*

Proposition 105D*. *The half-life of a civilization system has been around 250 years*

There is a further complication. I am suggesting that the Genetic Aggregation stage, Stage 1, is a basic part of the whole development cycle. In more distant history, this aggregation was

generally accomplished through war and fighting, rape and pillage. In more recent centuries there has been a gradual and as yet incomplete switch to more peaceful means, mostly through migration. The current example is that of the United States.

The rate of development of the United States system has been much more rapid than that of comparable systems in the past. Of course, this could be purely a matter of chance — the half-life quoted is only an average among wide variants — but I suspect not. I think there may be a difference of kind, rather than degree.

This difference may lie in Stage 1. Instead of an ordinary Genetic Aggregation, the US example may be more closely described as an Infocap Aggregation, one in which many more types of infocap in addition to genetic resources go into the melting pot. Because of the relatively peaceful way in which this aggregation was accomplished, the opportunities to preserve infocap during the transfer, and to permit rapid infocap breeding in the new mix, were considerably enhanced.

***Proposition 105E**. Peaceful migration has started to replace military conquest as the basis of the aggregation phase of the civilization-system cycle**

***Proposition 105F**. Migratory aggregation preserves infocap and subsequently promotes infocap breeding, resulting in more rapid system development**

Of course these propositions raise as many new questions as they answer. Why has South America, also the product of intense racial mixing, not advanced to the same degree as the US? Perhaps because it had a much greater degree of military conquest, or because of imperfect integration with the existing large populations. Why has Japan advanced so much on the world scene, although its society is notably homogeneous?

For the moment we will leave these matters and look at some other aspects of homogeneity in society.

The Combination Man

First we may try seeking an explanation for some of the above, a reason why diversity promotes the well-being of a system. Linear thinking tends to view the individual systems of a national system, the people involved, as conforming with or diverging away from given character/behaviour norms. Charlie is rich, Sally is right-wing, Peter is clever, Bruce is a fast runner, Jolene is beautiful.

Some of these attributes, being rich or poor, able to run fast or slowly, are fairly linear in nature. Others are not. What makes Jolene beautiful? She may have flaming locks of auburn hair and eyes of emerald green, and still be ugly.

Probably what makes beauty is a fortuitous *combination* of all sorts of characteristics. In addition, the impression of beauty seems to be reinforced when some of these characteristics are a little exotic, like red hair or green eyes, when they are away from the norm. We could say that beauty is a matrix quality, not a linear one.

Proposition 105G. Many system qualities are matrix qualities, dependent on combination and interrelation of more linear attributes for their value**

***Proposition 105H**. Matrix qualities are enhanced by inclusion of a proportion of off-norm attributes**

One can see these principles working in people of mixed race, where the mixing tends to throw up people of exceptional attractiveness. It is the touch of the exotic, the inclusion of out-system genes, which adds to their beauty.

The Face That Launched a Thousand Ships

An interesting feature of matrix qualities is that they may not obey the same rules as linear qualities. Take the Principle of Natural Selection, in evolutionary theory. If a species is in a situation where height is an advantage, the principle tells us that natural selection will tend to favour individuals who happen to be taller, and so increase their chance of passing on their tallness quality to succeeding generations. So the average height of an individual of the species increases as time passes.

No-one seriously disputes that such a mechanism operates. It is logically sound, gives an accurate explanation of observed measurements, and can be predicted and applied in practice, as is done routinely in animal breeding.

But what about something like beauty? If Natural Selection applied to this quality, then we would expect people to have become more and more beautiful over the ages — there is no denying that possession of beauty is a huge survival and breeding plus. Yet if we go back to the statues of the ancient Greeks, the portraits of older civilizations, we can find beauty to match anything seen today. It seems that Natural Selection does not apply to matrix qualities — at least not at the conventional point of measurement.

Proposition 105I*. Matrix qualities may not be subject to the same laws as linear qualities**

A Nation of Shopkeepers

Continuing change is a feature of life. Changes within a system mean new challenges, new demands for abilities to cope with altered circumstances. How are the ones able to meet these new challenges selected?

It seems to me that the attributes needed to handle and drive change are often matrix qualities. Intelligence, creativity, persistence are all non-linear qualities — so-called Intelligence Quotient figures measure something very much more restricted than ‘true’ intelligence. In fact, ‘being good at their job’ is an obvious portmanteau characteristic which may imply the combination of a host of characteristics. In an overseas dam-building project, it may require not only formal qualifications and experience in engineering, but also a linguistic bent, an inbuilt appreciation of psychology in handling staff, and much, much more. All these

combined requirements may be summed up by saying that someone ‘has a feel for’ a situation.

The point I am making here is that for someone to excel at their job, they will often need a mix of exceptional (off-norm) characteristics. Only then can they appreciate that the hold-up in getting the rock shifted may be solved by distributing sacred flowers around the barracks. Of course any required combination of off-norm characteristics is much more likely to be found in a genetically diverse or infocap-rich system.

Proposition 105J**. *Internal diversity in a system enhances its abilities to handle and promote change*

We can see the operation of this principle in looking at the British. In spite of Napoleon’s derogatory remark about them being a ‘nation of shopkeepers’, in fact a feature of the British is that they are extremely varied and non-homogeneous. Somewhere among them it is usually possible to find people who can excel at anything you care to name, whether it is scientific competence, athletic ability, blind courage, or crass stupidity.

A serious study of eccentrics by an American psychiatrist, David Weeks [McGourty, 1991], concluded that Britain’s eccentrics were “extraordinarily creative” and of much higher quality than anywhere else in the world. “They are a much under-utilized resource”, he said.

Another interesting point to come out of Weeks’ study was that the eccentrics enjoyed exceptionally good health, visiting a doctor only once every eight or nine years, in contrast to the general average of twice a year. They were also unfailingly happy: “They are very curious about everything, and usually have an obsessive preoccupation with five or six different things at once. It all adds up to a recipe for happiness”.

Weeks commented that “happiness could also explain their good health, because it enhances immune response systems so they were less prone to infection”.

Of course the word ‘eccentric’ means ‘away from the centre’ or ‘off-norm’. The conclusion from all this is apparent:

Proposition 105K.*** *Infocap diversity promotes the well-being of a system*

Ninety-Nine Percent Perspiration

Right at one end of the vast spectrum of human abilities and characteristics lies a tiny area labelled ‘genius’. We have already seen reasoning which suggests that a person identified with this tag is one who happens to have a fortuitous combination of characteristics which may be individually uncommon, and in combination, extremely rare.

What these characteristics are will vary markedly from individual to individual. Thomas Edison said that “Genius is one percent inspiration, and ninety-nine percent perspiration” — a reference to the undoubted fact that ideas are not self-developing, but require persistent effort to produce a tangible advance. Bright ideas are only a part of genius. Intelligence is not necessary: often a genius will be an instinctive genius, functioning without knowing how they do it. Outside their own field of genius, they may be quite dull.

There is nothing particularly novel in saying this. The word ‘genius’ implies someone who

is at a personality extreme, so by definition we could not have most of a population being geniuses. But it is worth stressing the point that geniuses probably arrive at their status because they happen to have a lot of some varieties of ability. The interesting question arises, as to whether they are prone to also possess significant ability gaps.

Dissolving the Device-Handler Code

During the early 1970s, computers were undergoing great development, and were beginning to take their place in all sorts of areas of human activity. At that time perhaps their most pressing limitation was their restricted amount of ‘memory’ — the area in the computer where programs and the data they were currently manipulating actually existed. The memory was in the form of ‘cores’, tiny loops of wire, each hand-wound by some source of cheap labour.

In those days 16K of memory cost a lot, and to buy another 4K represented a major purchase. Nowadays, of course, core memory has been replaced by very much cheaper silicon chip memory, and home computers come off the shelf with a hundred times the memory of those days. But then it was a real struggle to fit all you had to, within the limited memory available. I remember, on one project, contributing towards a lottery ticket to buy ‘our’ computer some memory it sorely needed (the ticket lost!).

Most of the memory was taken up in two things; the operating system, which allowed the user to interact with the hardware to bring in particular programs, and was more or less the same all the time; and the programs, which were switched in individually as needed. To save memory space, the operating systems were ‘generated’ for each particular installation, rather like customizing a new car. All would have the same ‘chassis’, ‘drive shaft’, and so on, but the apparatus for options (say ‘air-conditioning’) was only included if needed.

In generating the operating system, the procedure was to take a ‘standard’ version of the system and customize (‘tailor’) it by adding modules which were needed for that installation, and subtracting modules which were not. For example, if your machine did not have a paper-tape drive, and the ‘standard’ operating system had a module of computer code to handle a paper tape, then memory could be saved in the final tailored operating system by deleting the unneeded paper-tape handler code module.

The interesting thing is how this was actually done. The instruction code inside the standard operating system was set up like the bookshelves inside a huge library, and the *position* of particular parcels of code was important — the system expected the chemistry books to be on the shelves immediately after the physics books, as it were. So when the system was tailored to remove the paper-tape handler, no attempt was made to close up the space with the later code. Instead the space was allocated to a totally unrelated use.

In fact the space freed was used for ‘small buffers’, in effect sets of pigeon-holes for small bits of data the system was passing around during its operation. It was like having sets of in-trays and out-trays for different users, so Professor Brown picked up his letters from a certain gap in the history book shelves, and put his memos for typing in another gap in the psychology books. Unlike people, computers are good at handling a ‘distributed’ facility like these small buffers, and so good use was made of the limited memory space.

The question which arises from this diversion is this. If you have people who are using part of their brain in some specially effective way, a way which makes them outstanding to the genius level, does it make them liable to corresponding functional lacks?

Proposition 105L*. In a particular human, outstanding ability in one area may be balanced by corresponding deficiencies in others

I have not examined the implications of this proposition in detail, and would be interested in evidence supporting or contradicting it. Of course there is anecdotal support — the ‘absent-minded professor’ who can remember the most complex formula but not where his car is parked, and so on. This is an interesting area which could be investigated further.

We can turn now to another aspect of genius — not how it affects the individual, but how it affects their system, and, ultimately, the wider matrix.

Fruit of Genius

There is a point about the effects of genius which is not controversial, but even so is not often recognized. We will later deal in some detail with evidence for the view that infocap is not easily restricted so it remains confined within system boundaries. Nowhere is this more true than with the effects of genius.

The effects of the output from a particular genius spread almost without restraint right through the entire human-society matrix. If the genius is in the form of performance on the violin, the speed of spread may be that of electromagnetic communication, appearing in Australia only a fraction of a second after its origination in, say, Europe. If the genius is such as to lead to a fundamental scientific discovery, its rate of spread will be slower, because of the complex filters and barriers which systems set up, knowingly and unknowingly, to restrict these flows.

Nevertheless, even when such barriers exist, the effects of any genius-level advance usually flow through from one system to another rather easily. Research scientists are eager to publish their results and get these spread round the world as rapidly as possible. On the technological side, if say a new, very innovative type of solar cell is invented in Japan, its sale and use will occur elsewhere in the world quite soon after trials have been completed in its home area. The nature of the economic system will see to that — there is no point in developing something innovative at great cost and then trying to artificially restrict its use to a particular geographic area.

Here is point one. Genius leads to the creation of infocap. This infocap is not then restrained within its local systems, but can rapidly spread throughout the world. We can present this as a formal proposition:

Proposition 105M*. Genius-created infocap is not retained solely within its system of origin, but may propagate freely throughout the world holosystem

There is a further consequence, involving an interesting subtlety. With an increasing world

human population, we may expect an increasing *number* of geniuses to appear, on whatever definition of genius, and assuming the *proportion* to remain steady. One genius affects the whole world — if we get more geniuses, the effects on the world will be at least in proportion.

Here then is a preliminary explanation of why growth in many areas of human endeavour tends to be very marked — geometric or exponential growth, rather than linear. Thus scientific advances improve health levels, which lead to population increases, which lead to more people being involved in scientific research, and so.

Where does this preliminary explanation break down? It does so in areas where the infocap is imported and does not lead to more research. Where the population is increasing because of imported health measures, and just leads to more people, not more people creating infocap for export.

So the big increases in world population take place in areas of Africa, South America, Asia which are already infocap-poor. These increases do *not* lead to the appearance of more geniuses, more infocap. We could say that the infocap levels are not great enough to allow much infocap breeding to occur.

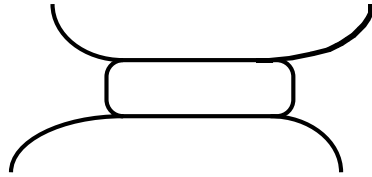
Take China. China was the source of many major inventions — paper, explosives, and moveable type among them. But these happened some tens of centuries ago, when, as we have seen, the genetic mixing there was much fresher.

What major invention has ever come out of non-Mediterranean Africa? Out of South America? Out of modern Asia? While examples can be found, they are few in number, and usually relate to natives of those areas who have studied and worked in ‘the West’, that is in areas of high infocap. So the supposition that increasing populations lead to increasing numbers of geniuses may be only a half-truth. What is more likely is that increasing infocap levels lead to more geniuses, especially where these levels are above some critical ‘breeding’ level.

Proposition 105N**. Above certain critical levels, infocap ‘breeds’, with the recursive creation of geniuses and infocap

So far we have not gone into the structure of infocap very much. We will look further at it and its implications in more detail later. But first we need to bring out a whole new element of the Matrix.

Chapter 106



LOVE MAKES THE WORLD GO ROUND — The Synenergy Story

*“Love rules the court, the camp, the grove,
And men below, and saints above”*

— Sir Walter Scott, *Lay of the Last Minstrel*

The Third Leg

To be able to stand freely and in a stable way on its own, a piece of furniture needs at least three legs. So far, in our examination of the makeup of the Matrix which forms our model of human society, we have distinguished two basic elements, infocap and systons. Now we move on to the third and last element.

I have tried to build up an image of infocap as the substance, the material part, of operations and actions involving human society. Similarly, the concept of systons has been put forward as representing the entities which are the initiators, proponents, or receivers of these actions. To complete the model, a third element is needed, one which represents both what may be described as ‘energy transfers’ occurring in the actions, and also a sort of ‘potential energy’ functioning as a glue holding the systons together.

Clearly this element, for which I will be using the name ‘synenergy’, is a much less tangible concept than the ones used for the first two elements. Even so, I hope to demonstrate that its existence is ‘real’, real in the sense that it forms a logical and essential part of a model which can accurately describe what we regard as the ‘real world’.

For this third element of Synenergy I will be using the following symbol:

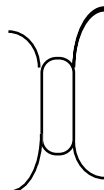


Fig. 106.1 The Synenergy symbol

This symbol, with its curling ‘antennas’ and lower symmetry, perhaps has more of an organic look than the symbols used for infocap and systons. And it is in the nature of synenergy, as I envisage it, to be more organic, more of the nature of a ‘life force’ in the Matrix — perhaps less easy to quantify than the other two elements, but nevertheless still amenable to the same process of generalization and rule-formation as the others.

For the moment we will not try to define Synenergy too closely. But a number of examples may help. Examples include communications, both telecommunications and all sorts of human speech and writing and symbolism, payments and all sorts of money transfers and some elements of asset transfers, together with a whole group of psychological entities such as pair-bonding, team spirit, and other feelings-manifestations which can be generalized as ‘love’.

In a way, synenergy can be regarded as the *flow* of infocap between systons.

There is another way of looking at the nature of synenergy, one based on an analysis technique called ‘Dimensional Analysis’. This is an interesting aspect, but not one basic to the ideas in this book. A brief examination of it is added to the book, as an appendix.

Readers may refer to the appendix on Dimensional Analysis if they wish. But at this point, we need dwell only on two important implications of this analysis.

Convertibility

One of the underlying assumptions in the dimensional analysis of synenergy is that all forms of it are of the same basic nature. It is as if we are talking about apples and pears, pineapples and kiwifruit; all can be regarded as forms of fruit, all are parts of plants.

But when we come to talk about apples and gravity, or speed and anxiety, we are talking about things of a basically different nature.

Dimensional analysis would say that the *dimensions* of apples and gravity are quite different. In the sense used in this technique, ‘dimensions’ does not have the ordinary sense at all, but refers to the possession of a set of basic attributes. In the usual analysis, these attributes are length, time, and mass.

On the other hand, the dimensions of apples and pears will be the same, as far as this technique is concerned. And an important implication of this is that it is always possible, either in theory or in practice, to *convert* an item with a given dimensional structure into another item with the same structure.

In the example we have just used, it would suggest that it is theoretically possible to convert pears into apples. And in actual fact, the Chinese have already done this, many centuries ago. The resulting fruit, these days called a nashi fruit, may look just like an apple, even though a close genetic analysis would reveal it is actually a pear.

As far as synenergy is concerned, the implication is that any form of synenergy is, in principle, convertible into another form.

Proposition 106A*.** *All forms of synenergy are theoretically capable of interconversion*

There is actually a word for this process, when it relates to certain types of synenergy in human society. We call it ‘sublimation’.

There is a further derivation. If synenergy basically consists of a flow of infocap, its dimensional structure can be represented as that of infocap divided by time. In other words, if we can find units for infocap, a value for synenergy will be given in number of infocap units moving in unit time.

A useful comparison is with electricity, where everyone is familiar with the term kilowatt. A kilowatt is a measure of power, which has the dimensions of energy per unit time, so that a kilowatt is equivalent to one kilojoule per second. Of course a kilojoule is a measure of energy, we may find a food described as having '200 kilojoules per 100 gram portion'.

So synenergy is to infocap, as power is to energy. We may as well mark this with a formal proposition:

Proposition 106B*. *Synenergy has the units of infocap flow per unit time*

The dimensional structure also implies that types of infocap are interconvertible, just as for synenergy:

Proposition 106C***. *All forms of infocap are theoretically capable of interconversion*

There is nothing particularly controversial in all this. All forms of energy have the same dimensions, and we are very familiar with the conversion of one form of energy into another, such as rotational energy turning into heat in an electric drill bit, or chemical energy turning into electrical energy in a car battery.

Conservation and Other Properties

There is another dimensional property we are familiar with. Entities with the same dimensional structure normally have the same general properties. One such property is called conservation.

In this sense, conservation means whether the entity can be created and destroyed or not. In the familiar world, energy is conserved. One form of energy may be converted into another, but can't be created from nothing, nor can it be destroyed. Sometimes it is hard to work out where the energy went to, but proper measurements will always reveal its destination and the fact that the total energy is unchanged.

Mass is another entity which we usually regard as conserved. In fact the famous Einstein equation describes how mass may be converted into energy, and vice versa, so this is not strictly true. Even so, in the atomic reactions where the equation applies, the total of mass plus energy *is* conserved.

Other scientific entities are not conserved. One such is 'entropy', essentially a measure of the randomness, or perhaps the degree of structuring of a body. The entropy of the Universe as a whole is supposed to be continually increasing as it 'runs down'.

As it happens, entropy has the same dimensions as information, in the scientific sense. And in Matrix Thinking, information is just one form of infocap. This leads naturally to the next proposition:

Proposition 106D**. *Neither infocap nor synenergy are conserved*

This is a simple and obvious feature of the real world, for which readers will be able to supply many examples from their own experience. Nevertheless, its generality is not generally appreciated. We will often see the implications of this proposition appearing later in this book.

Love Makes the World Go Round

Any satisfactory theory of how human society operates will need to address the question of motivation, the question of What Makes Things Happen. It seems to me reasonable that if all these motivational forces can be lumped together under one heading, that heading can be called synenergy.

Proposition 106E***. *Synenergy flow is the major need and desire of all human-based systons*

Think about it. The need for money and the desire for love, attention, and interaction with others are acknowledged as fundamental forces in human life. All these things have been classed together here under the heading of synenergy. I have suggested that synenergy is more or less the 'life force' of systons, and that its essence is the transfer of infocap.

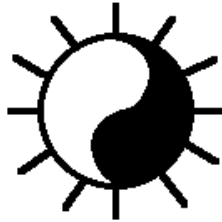
But don't think about it too much. Instead, treat it as a true working proposition, and see how well the implications of this proposition lead to a valid model of society, as we move on to develop this model in the rest of this work. The proposition doesn't actually need to have an established logical justification, it only needs to give a good basis for analyzing the world — or at least a better one than anything else around so far.

Time to Relax

It's only the sixth chapter, and already we have got through all the basic theoretical stuff in this book, everything is downhill from now on. But watch out for a few crevasses on the way down.

So we can move on now, to look at how the different parts of a syston fit together and work together — and how it can break down if this doesn't happen.

Chapter 107



JACK SPRAT COULD EAT NO FAT — Systel Allocation

*Jack Sprat could eat no Fat
His Wife could eat no Lean
And so between the two of them
They licked the platter clean*

— Old Nursery Rhyme

A Woman's Place is in the Home

There can be few phrases more likely to annoy 'the modern woman' than that just quoted, and perhaps with reason. But before just dismissing it as a shining example of male chauvinism, let us look at the situation, and others like it, from the viewpoint of Matrix Thinking. At the same time we can try to work towards one of the general goals of this book, to develop more of the Unified Theory which can be applied to all systons.

In the present case, the syston involved is clearly that of the Family. The archetypical family syston is made up of a Mother and a Father, often contracted together in an arrangement called Marriage, and a number of Children. Of course there are often others involved, with aunts, grandparents, and perhaps in-laws, but these are part of a wider syston called the Extended Family. For the moment we are only concerned with a very simple unit, the basic Family.

Working Together

In the nursery rhyme quoted at the head of this chapter, we have an example of successful Systel Allocation — the division of activities going on within a syston between the components or elements of that syston, the systels.

That may be a fancy explanation for an obvious fact, but is it really so obvious? Do we really take into account the real situation in a smooth-running syston, or do we tend to apply

one of two extreme models to all systons? I suggest that the latter applies.

One extreme model is that of the 'Management Tree'. At the head of the Tree is the Boss. Under the Boss work a number of subordinate or deputy bosses, and under them are people occupying progressively more and more lowly positions until finally the lowest level of people is reached, those who have no-one working under them.

This model is, even now, often still applied to the Family. On the Australian Census forms, until recently there was a space to write in the name of the 'Head of Family' (now it says 'Person 1'). And, of course, in bigger and more complex systons, the Management Tree model is the norm — and there it is a quite reasonable model.

The other extreme is the 'Everybody's Equal' model. This is the model which is most often applied to such things as electoral systems — One Vote, One Value — and there, again, it is quite a reasonable model.

These are the extremes. In Matrix Thinking, it can perhaps be said that there are no extremes, instead everything is a composite, a smear, across a spectrum where 'extremes' are only arbitrary points towards the ends of the spectrums. We can take this reasoning further to derive a useful result which cannot follow from any linear or highly-polarized view.

That result is the suggestion that any grouping in human society operates better, to produce more 'well-being' among its members, if they work in a complementary fashion, with division of tasks among them as well as between them.

Proposition 107A.** *A syston improves its well-being when its components act cooperatively and in complementary fashion rather than when all tasks are equally shared*

This is perhaps not a very profound suggestion. But it is a fundamental one in what follows.

The Battle of the Sexes

The Battle of the Sexes has been perhaps the longest-running and most bloody of all the battles in which human societies have engaged. This battle has been in a particularly active condition for most of the Twentieth Century, with the early campaigns for Votes for Women, the rise of Women's Lib in the 50's and 60's, and the subsequent adoption of Equal Pay for women.

Nowadays I suspect most people would accept that the majority of these campaigns have been won, by women, and we are left with tidying up the finer aspects of such things as Equal Opportunity and Sexual Harassment legislation. Of course there will still be some women who will cry "Not So!", and who will point to the "massive change in social attitudes which is still needed before true equality can be gained".

Then, at a deeper level, there will be those who ponder whether it was all worth while, whether the Victories Gained were Pyrrhic ones which really have not left women better off in the long run. Whether the campaign to develop the New Male, sensitive, caring, and communicative, sharing equally in everything that goes on, is really the ultimate battle. Whether when this ultimate battle is won, women everywhere will henceforth be happy, relaxed, and contented with the world.

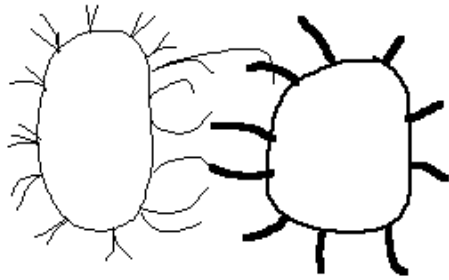


Fig. 107.1. *The Battle of the Sexes*

It seems to me that there are two distinct aspects to the matter. One is the aspect of Equality of Opportunity; the other is that of Division of Labour. Let us now go into this a little more deeply.

Equality of Opportunity

Here is an area where Matrix Thinking will not lead to a view which diverges very much at all from that commonly accepted. On a broad view, any artificial restriction on the actions of particular people or systels (triggered solely by one of their characteristics) will reduce infocap flow and hence synergy. Thus if the aim is to maximize synergy in their wider syston, such restrictions are undesirable.

If the characteristic involved in itself places a limitation on the action, then that's life, and the restriction involved is not artificial. There is a basic physical characteristic which hinders men from giving birth, so they are not being denied anything in this. If women are denied the opportunity to enlist for active service in an army, where they may be put in a situation of needing to kill other soldiers, then that is artificial, and on a preliminary view, at least, such a restriction is undesirable.

Then there is the topic of restrictions which go the other way — Affirmative Action, quotas for different ethnic groups in employment, special laws for aborigines and the like. The MT approach just says the same thing: if the broad aim is to improve the wider syston, these restrictions too must be undesirable.

Division of Labour

This heading is used here to include much more than its application in industry. It is broadened to include the activity of systels in any segment of the Matrix. We can look, for example, at the situations under which plants grow.

In his book *The Botanic Man*, David Bellamy [1978] looks at how different plant ecologies have developed in different areas, according to the local average temperatures and rainfalls (or more strictly, precipitation, including snow). He presents a picture along the lines of Figure 107.2.

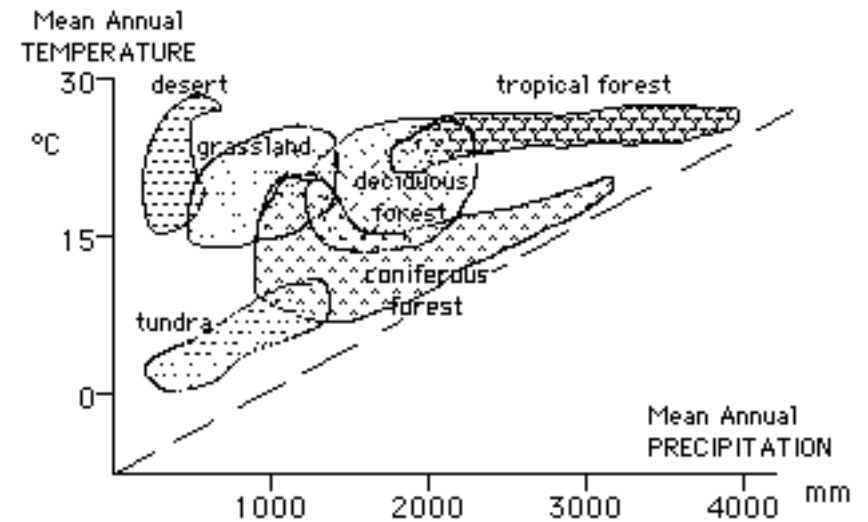


Figure 107.2. *Vegetation and climates*

Of course a picture like this is useful for working out what types of vegetation can be expected under given temperature and rainfall conditions. But it has been included here for another purpose.

The picture itself can be regarded as one particular cross-section across one segment of the World Matrix. In Chapter 108 we will be developing the idea of the Matrix Cocoon and sections across it, but for the moment we can just regard the picture as a slice of the real world.

The illustrative value of this picture lies in the fact that it demonstrates very graphically how systems can evolve to fill as much as possible of the 'Matrix Space' available. Only the area above the dashed line represents conditions found in practice — there are no very cold regions with 3 metres or more of precipitation, for example.

Of course each of the vegetation types shown in Figure 107.2 is itself a generalization over a large range of separate ecologies. Pictures similar to the above can be built up for sub-ecologies within one of the above types, such as that within a tropical forest.

In such a section across tropical forest 'Matrix Space', the axes of the picture might be such things as height above ground and light incidence needed. For example, some groups of plants are both tiny and require relatively little light. These can survive on the ground beneath a continuous tree canopy. Others are light-demanders and strive to grow into big trees; these must either wait, scarcely growing, until a break in the canopy occurs through an ancient tree crashing to the ground, or must possess a seeding mechanism which is rapidly triggered by the occurrence of such a break.

Tropical forest ecologies are notable for their complexity and diversity. Their constituents have evolved to fill every scrap of the available ecological space. For this reason it is

completely understandable that their productivity is the highest of all ecological classes, 20 or 50 times that of semiarid savannahs or grasslands. The productivity is a reflection of the diversity, as would be expected in MT terms.

Stability Through Diversity

There is also another, perhaps generally unappreciated, advantage to complexity. More complex systems (those with higher infocap content) are found, in practice, to be more stable than simpler ones. They can withstand changes and unexpected extremes of external conditions far better than their simpler analogues. This is also true of human-based systems.

*Proposition 107B**.* *Complex systems have greater stability than simpler ones*

At first sight this might seem to be an unlikely rule — it might be thought that the more complex a system is, the more likely it is to go wrong. But in practice, examples can be found at every level — from computer programs through tribal conflicts and on to large modern nations — which bear out the validity of this Proposition.

In MT terms, what we are saying is that infocap and synergy are what glues the parts of a system together, so that up to a point, the more glue, the better it will hold together. Of course this concept breaks down when there is more glue than parts to glue together — perhaps an expression of “more money than sense”, or “ruined by a lottery win”?

Yin and Yang

The general MT conclusion so far is that the greater the number of elements in a system, and the more they work together, the better for the whole — synergy advantages systems. But there is an observation on real systems which does not affect this conclusion, but adds another consideration to it.

So far we have not looked at the mix of individual systems within a system to any extent, other than to note that their diversity is an advantage. Another aspect is their ‘pecking order’, whether some of them come to dominate others, and in turn be dominated by others still. Every human organization has some sort of dominance structure of this type, whether defined or unwritten, every real system has some element of the ‘Management Tree’ structure mentioned at the beginning of this chapter.

The interesting thing is, when you look at it closely, that the majority of successful systems seem to have two systems, not one, at the top. Typically, one of these dominators is effectively ‘in charge’ for many system functions, while the other can step in and make a go of it when the first is absent. And the other dominator is in charge for other functions, backed up by the first when necessary.

The most obvious example is the Family. Typically, it consists of the Mother, the Father, and a number of children. Again, typically the Mother is the dominator in home matters, the Father dominates in extracting infocap from outside the system. There is nothing necessarily so in this, and of course role reversal is quite possible, but that is the common situation.

In politics, the general situation in a democracy of any nature is to have two major political

parties, two dominators, and an unspecified number of minor parties. Occasionally one of the minor players may rise in dominance and displace one of the two leaders, but the situation soon settles down to the typical two dominators again. A problem with some electoral systems is that they can fragment representation so much that it is difficult for the two dominators to ‘coalesce’ out of the Matrix swirl.

In business and social organizations, it is typical to have a Head and a Deputy. In active systems, the role of the Deputy may actually be formally defined to include oversight of particular functions in the normal run, with the switch-role of standing in for the Head where necessary.

In physiological functions, most creatures have function operators in pairs. We have two hands, left and right, of which one usually dominates. We have two ears, and two eyes. Some spiders have eight eyes, and the primitive New Zealand reptile the Tuatara has the vestiges of a third eye. Why have we settled on two?

Two Heads are Better than One

And, in effect, we have two brains, the left and the right hemispheres. We now know that most human brain processes are allocated between these two, we know the sites of imagination, of logical reasoning, of speech, of hearing, of motor functions. And we know from experience with brain-damaged stroke victims that if one of these sites is damaged, others will attempt to stand in and compensate.

We have already looked at the Battle of the Sexes, and pointed out some situations where the naturally evolved order is for one sex to dominate in some areas, the second in others. Of course there are many primitive organisms which do not have differentiated sexes, but instead reproduce by budding. The history of evolution of higher plants and animals is the history of increasing diversity and complexity in sexual matters.

Thus in the most evolved plants, the angiosperms like the oaks and the grasses which are all around us, each female ‘egg’ cell in the flower requires fertilization by two male cells derived from pollen. In the more primitive plants, the gymnosperms like the pines and cycads, only one male cell is needed. The first group has its egg cells within a special structure, the ovary, which the gymnosperms lack — the name gymnosperm actually means ‘naked seed’.

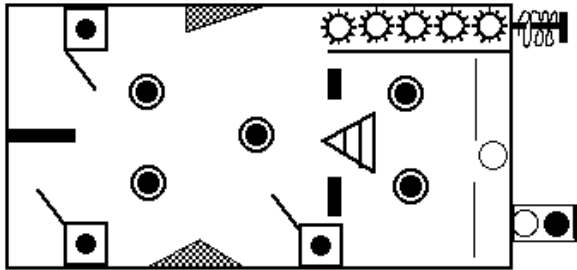
To sum up, the theme of the present chapter is to bring out the ideas that diversity benefits a system, that allocation of complementary roles within a system rather than multiplying standard roles also benefits a system, and finally that for particular functions of the system it works out best if two systems come to dominate that function, with one backing up the other.

Proposition 107C.* *The optimum number of dominant systems in a system is two*

To give some perspective to these ideas, it should be noted that they are not theoretically derived. Instead, they are the result of analyzing actual situations, and noting aspects which have generally ended up on top in the Survival of the Fittest.

We can move on now to look at another aspect of systems — how all their components interact together, and what rules they follow in these interactions.

Chapter 108



GOING BY THE RULES — Living in the System Mix

“Conscience is the guardian in the individual of the rules which the community has evolved for its own preservation”

— W Somerset Maugham, *The Moon and Sixpence*, 1919

The Conflicts of Life

Life, it might be said, is a series of progressions from one conflict to another. Let us now look at some particular aspects of Life in Society from the point of view of Matrix Thinking. We have already, this early on in the book, developed all the theory we need — all we need to do now is develop some of the concepts a bit.

First we look at the topic of conflicts. They are always with us. But can we apply a bit of analysis to the situation, and at least classify them a bit, to get a better handle to think about them?

Billy Black and Wendy White

A little story. Billy Black falls in love with Wendy White, and she with him. The World looks on, smiles, and applauds. They marry and live happily ever after.

Another little story. Peter Pink falls in love with Gail Green, and she with him. The World looks on, frowns, and mutters. It is only after a long struggle that they marry, and they are forever dogged with difficulties even then.

What’s the difference between these two situations? Well, the fact is, Peter Pink was already married to Betty Pink when he fell in love with Gail, and there were already two little Pinks on the scene at the time. Maintenance, custody, division of goods, visiting rights — the

Full Catastrophe, as Zorba would say. A classic conflict.

Now this situation would conventionally be viewed as one involving only people. But is it? Look again at the situation from the MT viewpoint. The first example, true, only involves people. But the second involves another system — the existing Pink Family system.

I have already suggested that the Family system is one of the strongest and most important of those in which humans are involved. And in this situation, it seems to me that it is the Pink Family system which is fighting back, struggling to maintain its existence. Of course this battle can be analysed into actions of its component systems, just as a military battle can be analysed into the movement of individual troops.

But from my viewpoint here, Peter and Betty Pink and their two children already formed an established system, and that system would always act in its own interests, sometimes to the point where attempts to break descriptions of the behaviour of the system up, into a list of how the individual systems behave, leads to bafflement — the systems seem to be acting senselessly and illogically.

I suggest that the reason for this confusion is that it is not people who are active here, but rather people and systems, or systems and systems, and the behaviour of a system may be quite different from the sum of the behaviour of the people involved. To make sense of the situation, it is first necessary to identify the systems which are active.

You Can’t Fight City Hall

When the scale of conflict is larger, the systems involved appear more strongly. At the local community level, there are often conflicts between individual ratepayers and the local Council. I have myself been involved in a bitter conflict with a local authority, one in which the authority appeared to be conducting a senseless vendetta against one of its ratepayers. From the individual point of view, their actions appeared purposeless and unjustified — they were just trying to show that “they were the boss”.

In retrospect, it appears to me that I was fighting the Council-system rather than the individual local councillors involved. A Council spokesman might say that the authority of the body was under threat, or, at a milder level, that the Council must be seen to be in control of the municipality. Here we have a legally-defined system, acting according to its own rules, the local by-laws, but also according to unwritten and even unrealized rules inherent in the makeup of the system.

The War of the Roses

With really major conflicts on the scale classed as wars, the fact that systems are involved rather than individual people is usually obvious. It is nearly always countries or states which officially or unofficially ‘declare war’ between themselves.

Of course, even though these systems have names, the names do not always clearly define the systems involved. The War of the Roses was fought between the ‘House of York’ and the ‘House of Lancaster’ in England from around 1455 to 1499, and this was a civil war, in which the actual participants varied from day to day and had no clearcut territorial basis. While this is being written today, a civil war rages in Yugoslavia, in which a so-called ‘Yugoslav Army’

is attacking what is supposed to be part of Yugoslavia itself.

Nevertheless, even if the make-up of the systons involved is not entirely clear, it seems that the view that systons are involved in major conflicts, rather than individuals, is not particularly outrageous. Many other types of conflict could be looked at across the whole spectrum of human interactions, but perhaps we can generalize the situation with a Proposition:

Proposition 108A*. *Most of the problems of human existence are due to conflicts between syston and syston, or syston and individual, rather than between individuals*

Searching for Peace — What to Do?

One of the great desires of people generally is for peace. People do not want wars. So why do wars continue to occur?

We will look at this matter in more detail in the second part of the book, in fact devote a whole chapter to it. But for the moment, I will just put forward the last proposition again, for the special case of wars:

Proposition 108B*. *Wars occur as a consequence of the dynamics of interaction of country- and state-systons*

Now that is not a very profound Proposition, but it is a start. The first step in improving a situation is to understand it. When we have understanding, we may see how to act to change the situation — and perhaps also, whether the result of the achieved change will really lead to the aim desired.

Let us now look again at systons generally, using a new model to give a visual feel for how they interact.

The Matrix Cocoon

People often see things in fairly linear terms. In political systems, for example, a useful convention is to describe things as being, say, ‘leftish’ or ‘to the right of Genghis Khan’. Political diversity is represented as positions on a range or spectrum, as in figure 108.1.



Fig. 108.1. Political systems on a linear spectrum

Now of course this is just a convenient representation, the communists are only ‘to the left’ by convention. Other scales have been used, it is interesting that the visible light spectrum has also been used, with the communists ‘red’ and the liberals ‘blue’. But the point is that these

ranges are all linear.

With Matrix Thinking we will try to get away from the linear approach, and represent things more generally. A representation we can use is that of the Matrix Cocoon (figure 108.2).

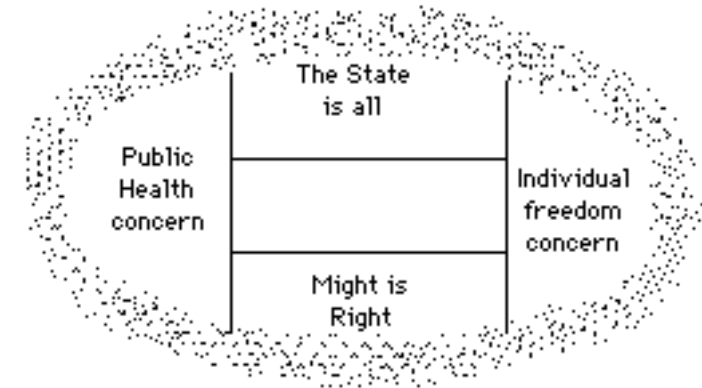


Fig. 108.2. A Matrix Cocoon representation

With this model, the whole Matrix of human affairs is thought of as like an egg-shaped cocoon (with fuzzy edges). In looking at any situation we can notionally allocate parts of the cocoon to different, often competing, aspects which interest us, as in figure 108.2.

Of course this representation is actually a cross-section across a three-dimensional cocoon. The allocation of aspects within the cocoon is purely arbitrary, to try and build up a picture which can be instinctively grasped.

We can then attempt to represent the underlying beliefs and assumptions of particular systons by mapping them on the matrix allocation, as in figure 108.3.

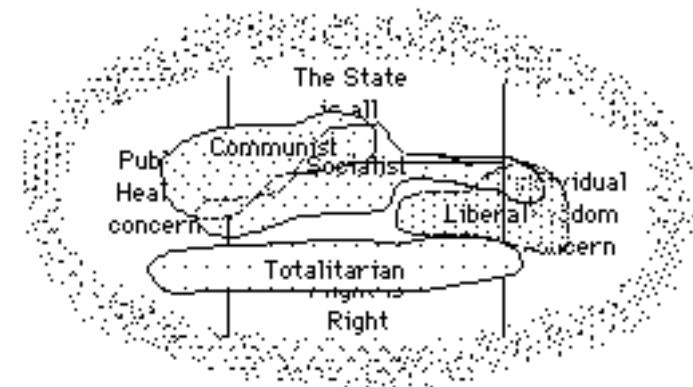


Fig. 108.3. Political systems mapped on a matrix cocoon representation

In theory, an aspect could be allocated a volume within the cocoon rather than an area in a cross-section, allowing representation of more complex interrelationships, but this makes the model harder to grasp. There is also a theoretical reason not to extend these models from two dimensions to three, which we will come to later.

This may be interesting, but what is its point in this book? What we are again approaching is the need, in MT, to clearly distinguish between different systems. After this, we can suggest rules by which the systems may interact.

In figure 108.3, the labels applied such as ‘Communist’ or ‘Liberal’ are just that, only labels. In any actual scenario, for an actual country, the labels may well be applicable to particular political party-systems, the ‘Liberal Party’, or whatever. The aim of mapping the systems on a matrix aspect cocoon is to clarify the relationships of the systems.

There is a danger in this sort of mapping. All systems change with time, and a mapping which was valid for a political party 20 years ago may have shifted dramatically since then. So a mapping cannot be regarded as fixed. And a mapping for a particular label in one country, say the ‘Social Democrats’, may have no similarity at all for the party with the same label in another country.

Going by the Rules

We now arrive at one of the most basic points in the use of Matrix Thinking to change human society, hopefully for the better. It is based on a Proposition which is not contentious, but rather is a working assumption which is seldom clearly stated as such. It concerns rules for the interaction of the segments and parts of society which we have here called systems.

Proposition 108C**. *Voluntary rules can be set up for the operation of systems which in themselves define the class to which the systems belong*

Perhaps an example will help make the meaning of this Proposition clearer. Some states, like WA, have rules for setting up a class of limited company called a Co-operative Company. These rules set up a company structure and method of operation rather different to that for an ordinary limited company. For example, each shareholder in a ‘co-operative company’ has one vote, irrespective of how many shares they hold, and company profits are distributed by rebates on shareholder financial activity, rather than as dividends.

The point here is this. A group of people wishing to start up a company to run under the rules of the Companies (Co-operative) Act will normally have the desire to operate under rather different principles to those of a normal limited company. Their action in incorporating their new company under a particular act is voluntary — they could choose from a range of Acts allowing the incorporation of many different types of body.

The role of the Western Australian Government has been to set up a number of allowable company structures, each of which has an associated set of rules. The rules are voluntary in the sense that if you don’t like them, you can choose a different set, and incorporate your company under those. Once you have chosen your company structure, the set of rules for that structure are compulsory.

By choosing a particular act under which to incorporate your company, you automatically define the company-system class to which your company belongs. It may be a Public Limited Company, a Co-operative Company, a No-Liability Company, or whatever; it cannot be more than one at the same time.

Setting up Rule Structures

Now there is nothing exceptional in all this. The company example has been chosen here because it is quite well-defined and familiar. The importance of the matter from the MT viewpoint is the proposition that this situation is applicable to *all* systems.

As we progress it will be appropriate to suggest particular sets of rules, particular Rule Structures, for particular system scenarios. The point that these rules are voluntary, in the sense that a choice can be made on which set of rules is to be followed, has already been made. A further point is that any given set of rules is not immutable, but can be expected to undergo evolution and amendment as circumstances change.

Even so, it is convenient to have labels for particular Rule Structures, as is done in the case of setting up different types of company. To change these particular ‘company’ Rule Structures, amendment to an Act of legislation is usually required, and the change is relatively clearly flagged to the community. Other Rule Structures may be much less formally defined, and changes in these can take place continuously and imperceptibly.

Setting up a Rule Structure involves a considerable amount of infocap input, so the setting-up process can be viewed as one which increases infocap. In the final Proposition of this chapter, this point will be formalized as a particular example of the perceived benefits of infocap accumulation.

Proposition 108D.*** *A system is advantaged by the availability of a large set of competing voluntary Rule Structures which can operate within it*

Chapter 109



DEVIATING FROM THE MEAN — Standardization and Diversity

“The time to standardize is when nobody cares any more”

— Old Computer Industry proverb

The ‘Will to Order’

Aldous Huxley, in his book *Brave New World Revisited* [Huxley, 1984], makes a telling examination of an aspect of human behaviour which he calls the ‘Will to Order’. An extract from this source will explain:

“The wish to impose order upon confusion, to bring harmony out of dissonance and unity out of multiplicity, is a kind of intellectual instinct, a primary and fundamental urge of the mind. Within the realms of science, art and philosophy the workings of what I may call this ‘Will to Order’ are mainly beneficent. ... It is in the social sphere, in the realm of politics and economics, that the Will to Order becomes really dangerous.”

“Here the theoretical reduction of unmanageable multiplicity to comprehensible unity becomes the practical reduction of human diversity to subhuman uniformity, of freedom to servitude. In politics the equivalent of a fully developed scientific theory or philosophical system is a totalitarian dictatorship. In economics, the equivalent of a beautifully composed work of art is the smoothly running factory in which the workers are perfectly adjusted to the machines. The Will to Order can make tyrants out of those who merely aspire to clear up a mess. The beauty of tidiness is used as a justification for despotism”.

“Really dangerous ... Subhuman ... Dictatorship ... Tyrants ... Despotism” — quite strong stuff! Now let us look at a contemporary and rather mild example of the Will to Order, in this case applying to Australian education systems (Fig. 109.1).

All right. Now that was a very mild example, and it would be pushing things to class Mr Dawkins as a tyrant or despot just because his Will to Order impels him to push for such things as standardized handwriting styles. In fact many people would instinctively support any moves towards standardization or uniformity. Let us examine this matter more fully from the MT viewpoint.

Dawkins disappointed

THE Federal Government will continue pushing for uniform national education standards, despite the overwhelming rejection of the proposal by the conference this week.

The Federal Minister for Employment, Education and Training, Mr Dawkins, said yesterday he was disappointed the meeting could decide on common standards for sausages but not on his proposals for reorganising the education system.

Mr Dawkins had proposed easing the strings attached to tied education grants worth an estimated \$870 million a year.

from the Federal Government to the States.

The Federal Government provides tied grants to the States in many areas such as English as a second language, disadvantaged schools, literacy and learning, and country area programs.

In return for the concessions proposed by Mr Dawkins, States would apply national curriculum and educational standards across Australia, including common starting ages, standardised handwriting styles and teacher quality levels.

Fig. 109.1. ‘The West Australian’, 1990 November 1

Standardization and Standardization

First, there are two quite distinct kinds of standardization. One type is what we might call Specification. Specification in this context means a description of some widespread entity — a system of electric plugs and sockets, for example — sufficient such that if the description is followed, any two of the appropriate components will fit together and operate satisfactorily.

Now I think most would accept that this sort of standardization is highly desirable. Specification in the case of electric fittings means giving values for the sizes, shapes, and positions of the pins and sockets, with tolerances by which these may vary. It also means giving action roles to the different pins — one is to carry the active current, another is to act as an earth. There is no tolerance possible in these action roles.

If the specification is set up correctly, then all plugs and sockets conforming to it should be interchangeable, in the sense that any plug will fit into any socket, and any socket will accommodate any plug. In Australia, where there is a single nation-wide Specification for domestic electric plugs and sockets which is almost universally followed, a new electric appliance can be bought from a store and taken home and plugged in without problems.

In other countries, this is not so. Britain still has a mix of older and newer systems, quite incompatible. Electric equipment bought outside Australia cannot usually be plugged in here, even if the voltage supply is right. This undoubtedly is an annoyance, and a restriction on the operation of business competition, in that electrical goods used in Australia have to be fitted with ‘Australian-approved’ plugs.

Surely it would be more sensible to introduce an international standard for electric plugs, and make all manufacturers conform to it? More sensible perhaps, but wait on, it’s that Will to Order leaping out of the woodwork again. Being sensible doesn’t necessarily mean that it’s for the good of the systems involved.

The point is this. A Specification is a *voluntary* code establishing a minimum degree of uniformity, sufficient to guarantee interchangeability or some other desired object. The code

will not normally concern itself with matters outside these aims — the plug specification will not refer to the outside colour of fittings, or the outside shape of socket boxes, for example. It is true that a government may require all or part of its constituency to conform with a particular specification, but that is another, external matter.

Don't Be Mean

Now we can look at the other sort of standardization, essentially imposed, involuntary uniformity for its own sake, or for the sake of perceived benefits. What it usually involves is an effort to push all expressions of some characteristic towards some uniform, average or mean value, as with Mr Dawkins' Australian handwriting styles.

In practice it is never possible to make all such expressions completely uniform. What can be achieved is to force the width of the band of values down, what we might call tight-banding. At the current time, women fashion models are quite strongly tight-banded, not with corsets, but in the sense that only quite narrow ranges of their heights and weights are acceptable to the fashion industry.

This 'Tight-Banding' is clearly quite a distinct meaning of the word 'standardization', and in MT terms is quite a different kettle of fish to 'Specification'. What is seldom openly considered is whether the Tight-Banding is beneficial or not, and if it is, who benefits. We will try and make some sense out this later. But first, we need a little more background on handling quantities which are not uniform.

For Whom the Bell Tolls

Many of the quantities which we come across in ordinary life, such as people's heights, approximate to what is called a normal distribution or bell curve (figure 109.2).

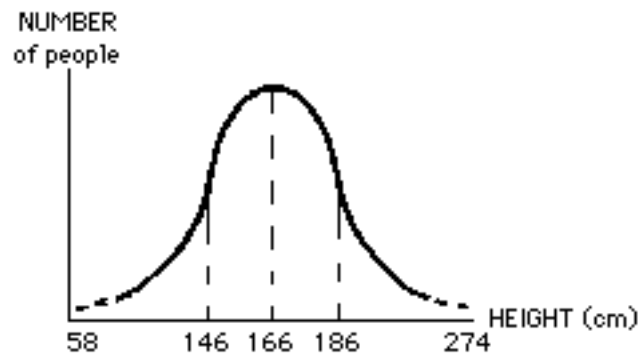


Fig. 109.2. The normal distribution or bell curve

With this curve, the quantity involved is counted from left to right, so in the case of heights, short people appear on the left and tall ones on the right. The height of the curve at a given

point shows the number of people with that height, so the highest point corresponds to the most common height.

According to the Guinness Book of Records, the very shortest adults recorded have heights tending down towards about 58 centimetres, and the very tallest approach 274 cm. Halfway between these values is 166 cm, which is perhaps close to the average or mean value for the whole population.

The ideal bell curve is completely symmetrical, and tails away forever towards the extremities, approaching but never reaching some limiting value. A real distribution curve for a quantity like adult heights cannot match the ideal exactly — for example, this would allow a small but finite probability of people with not only zero, but even negative heights — but the model is close enough for our purposes.

If the curve is symmetrical, the most common value (the value at which the curve peaks) is the same as the mean value, 166 cm for adult heights. A useful measure of the spread or diversity of heights is the standard deviation or SD. This is actually mathematically calculated, but on the bell curve it is equal to the distance from the central mean line to the points where the curves change from concave to convex, the points of inflection. So if the SD was 20 cm, the majority of the adult population would be between 146 and 186 cm tall. A small part would be less than 146 cm tall, and a similar part would be taller than 186 cm.

The figures given here do not come from actual measurements, and in themselves are merely illustrative. The point is that the Standard Deviation referred to will give, with real measurements of the sort of quantities which follow a bell curve, a measure of their spread. In fact the SD is an expression of diversity, an expression of the amount that the quantity measured can spread out.

Back in Proposition 105A, I suggested that genetic diversity is an advantage for a human system. We can re-state this proposition in new terms.

Proposition 109A.** *Systems with larger standard deviations in their linear quantities are at an advantage compared with systems with smaller ones*

It is important to note that neither of these Propositions suggest that *individuals* with values away from the mean necessarily have an advantage. Exceptionally tall and short people in fact encounter many disadvantages in a society tailored for the local mean — try riding a minibus in Quito! What is suggested is that the *system* which contains these people is advantaged.

My Band and Your Band

Clearly the bell curves for a characteristic like adult height will vary for different populations around the world. The Watusis in Africa will have a curve shifted well to the right of that for the Congo pygmies. The standard deviations for the two curves may be similar or not — this is not an aspect we usually think about.

Another way in which bell curves may be useful is when parts of populations are looked at. For example, in humans women are on average shorter than men. The curve for the whole adult population is, in fact, made up of two curves, one for each sex (Figure 109.3).

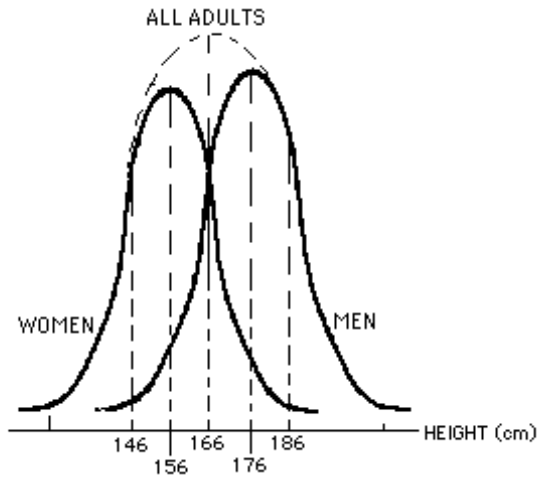


Figure 109.3. Separate bell curves for heights of women and men

It is an interesting point, that if you have two bell curves for comparable quantities, such as the heights of men and of women, they will always combine together to give another bell curve for the composite group. Logically this must be so.

Underheight, not Overweight

The old public weighing machines which gave you your weight always used to have height/weight tables to tell you what your weight should be for a given height. The old joke about these tables from some of us was “Of course I am not 14 pounds overweight, just 3 inches underheight”.

At least they did provide two tables, one for men and the other for women. But they had no recognition of differences in bone structure and build, or of age—all factors which can have a big effect on deviations from the ‘norm’.

The bell curves we have just been looking at provide a major advance over the ‘normal weight’ tables in looking at the world. They move the ‘judgement focus’ used from zero dimensions to one, from a point to a line. Even further advances are possible in the move towards gaining an MT aspect of our society, but for now let us apply the twin bell curves to an actual example — the topic of Aggression.

Why be Aggressive About It?

Look again at Figure 109.3 and suppose that the bell curves represent not height, but aggressiveness. It seems to me that it is not an unfair assertion to say that men, on average, are more aggressive than women.

The bell curves give an extra dimension to such an assertion. They bring out the fact that

even if such an assertion is true, there will still be many men who are less aggressive than many women, and vice versa.

In Chapter 107 we looked at the importance of complementary action by systems, people working together ‘as a team’, and in so doing filling more of the spectrum of a process. In basic MT terms we might say that the expansion in the number of roles involves more diversity, more infocap, and hence works to the greater benefit of the enclosing system.

The point to be brought out here is that different roles, different systems in a complex system, may demand quite different degrees of aggressiveness. I once tried to sell my house myself, not using an agent, and without success. A house agent I knew smiled kindly and said that I just did not possess the necessary ‘killer instinct’. Was he right?

Another area where aggressiveness may be important is in competitive sports. The champions in some sports, and in other areas of human endeavour which are intensely competitive, are frequently viewed as having unattractive personalities — ruthless, aggressive, with giant egos. Of course this is not a general rule, such an observation would be contrary to the whole MT viewpoint, which only mildly notes a certain shift in the aggressiveness bell curve when certain types of player are the subject of examination.

Another absolutely vital aspect of the MT approach is that it is non-judgemental. Aggressiveness in individuals is widely viewed as undesirable, MT makes no such claim. The furthest that MT can be forced along this line is the observation that a wide spread in any characteristic, even aggressiveness, can be expected to advantage a wider system. Advantage to the individual is another matter entirely.

We can pursue this reasoning now in a related area, one generally regarded as ‘difficult’ — the question of homosexuality.

Homosexuality

From the linear-thinking viewpoint, homosexuality is regarded as a problem in two ways. First, its actual existence is a problem for society, a ‘perversion’ from the norm. Second, why it should occur at all is a problem to explain.

Taking the second part first, on conventional reasoning it is hard to fathom why homosexuality should show up in generation after generation, with no obvious cause. Committed homosexuals are clearly much less likely to have children than is the norm, and whether from a genetic or a socially-learned origin, homosexuality would therefore seem to be much less likely to be ‘passed on’. And yet it continues.

As to the first part, there seems little doubt that the general view is that homosexual behaviour is ‘bad for society’, and should be curbed as much as possible, preferably ‘cured’. Let us now consider this sensitive matter from the MT viewpoint.

The MT inclination would have to be to say, that if homosexuality has continued to show up over the ages and in almost all societies, it must have some sort of role in those societies. Let us look for such a role.

Consider, once again, Figure 109.3, but this time assume the two bell curves represent expressions of femininity and masculinity, or more precisely, female-type and male-type psychologies. We will see elsewhere that there is a fundamental difference between these two

types of psychologies. And yet, the curves overlap; it cannot be unexpected that a proportion of men will have psychologies which are shifted to a smaller or greater degree onto the feminine side, or that a proportion of females will exhibit some or many masculine traits.

What the Dentist Said

When I was in my teens I had a problem with too many teeth, a ‘crowded mouth’. Our dentist at that time was a learned and pleasant man, and he was happy to talk about the theory of dentistry as well as its practice. From him I learnt the interesting fact that ‘third’ teeth are not all that uncommon in humans, although complete third sets are very rare. And the reason why ‘crowded’ mouths occur, and often problems with tooth alignment — all the braces miseries — is that tooth size and jaw size are separately inherited.

So the unfortunate child who inherits a small jaw from his mother and large teeth from his father is inevitably going to be a good customer for the dental profession. While diversity in tooth characteristics may be good for the wider system, it is bad for some of the individuals.

Now an individual psychology is a far more complex matter than is tooth size. Even so, it would not seem at all unlikely if the factors going towards setting masculine physiology expression and masculine psychology expression were separately inherited.

That provides at least a possible *mechanism* for the occurrence of homosexuality. For an understanding of its role in the wider system, we need to look more closely at where it shows up.

A Girl’s Job

How role perceptions change. The story has gone around that in the late 80’s in Britain, after many years of Tory rule under Mrs Thatcher, a woman advised her son to “study hard, and one day you could grow up to be Prime Minister”. “Oh Mum”, was his disdainful reply, “that’s a *girl’s* job”.

Women heads of government are not in the least unusual these days, in Western Australia our current Premier, Dr Carmen Lawrence, is a woman. It has been commented that women bring a more commonsense approach to government, perhaps with less blue-sky vision and startling innovations, but with more emphasis on running a sensible, settled economy in a practical, non-confrontationist way. It is not just a historical quirk that the roots of ‘economy’ mean how to run a household.

If we look at the places or roles where homosexuality shows up, the picture is quite different between male and female homosexuals. Male homosexuals are relatively common in ‘the arts’, particularly the theatre. Lesbians are not at all common in the theatre, but are more likely to be found in competitive (and physical) sports.

In fact the situation parallels the one we looked at with aggression. Gay men tend to be relatively non-aggressive, lesbians may be quite belligerent. Without for a moment suggesting that there is a clear distinction between “men’s” and “women’s” jobs, all the above can be explained on the basis that some areas of human endeavour may be best tackled with a ‘female’ psychology, and some with a ‘male’ one. This is, after all, only the traditional ‘yin and yang’ division once more — two complementary approaches will always do better than a single one,

however good. We might say that two approaches fills more of the Matrix than one.

Later on in this book we will look again at the fundamental differences between what, for want of better terms, I have called the ‘female’ and ‘male’ ‘psychologies’. For the moment we need only repeat that, like teeth and jaws, there is no necessary connection between physiologies and psychologies.

Competition and EOS

In both Government and in Business we can commonly find a compromise point between two opposing attitudes, those of Competition and of Economies of Scale.

Support for Competition comes from those who observe that it leads to greater efficiencies and lower costs, presumably because it encourages innovation and the adoption of changed practices, in order to survive in a competitive world. Support for Economies of Scale (EOS), and in government this tends to equate with centralization, comes from those who observe that if the cost of an operation can be divided among more people or products, the unit cost is less.

In recent years, the balance of view seems to have moved over to favour competition. Thus, governments have tended to amend Rule Structures to reduce monopolies and encourage competition — except where the competition is perceived as coming from outside their system.

The MT attitude would definitely come down in support of competition. Competition may be expected to promote infocap accumulation, through its promotion of innovation and experimentation, giving greater diversity in the system.

Proposition 109B*. A system will always gain greater advantage from competition than from economies of scale***

Here is a Proposition which may not find ready acceptance in all quarters, but I believe it is a very basic one which deserves close study. As always with MT, the Proposition is intended to be general over all system levels, so the ‘advantage’ referred to is not limited to the money form of infocap.

A corollary of this Proposition relates to Tight-Banding, the second meaning of ‘standardization’. Tight-Banding, and its organizational counterpart of Centralization, are obviously on the EOS side, and can be expected to reduce infocap.

On the other hand, the EOS approach will have attractions in a static situation, and in fact EOS itself drives situations towards a static state. Therefore good test cases on the EOS/Competition balance are likely to be found in conditions of rapid change.

One such example can be found in the computer industry, one of the most rapidly changing facets of modern life. Ask around your local business and government enterprises, and you will usually find similar and sorry stories. The big majority of these enterprises have found, to their cost, that standardizing on a particular computer mainframe model, particular software packages, particular video screens and printers, has left them sitting in the road staring after their colleagues who have gulped and swallowed the costs of upgrading with new developments.

Hence the quotation at the head of this chapter. The computer area is one of such rapid change that the usual accounting rules hardly apply. For example, computer equipment often

becomes obsolescent long before it wears out. And it's not just a matter of technological lag, it is not unusual to be able to replace the functionality of an older system with a new system, where the total capital cost of the new is less than a year's maintenance charge on the old.

Let us now look at a totally different matter, concerning individual and family incomes.

Income and GNP Distributions

Just as with most other linear measures, Gross National Product per Capita figures for the world's many countries will approximate to the familiar bell curve; there will be a few very poor countries, a mass of middling ones peaking at some mean value, and a few very rich countries.

But what we will be looking at here is not the bell curve for all the world's nations, but rather the many different bell curves for each of them, and the implications of these.

Standard statistical sources are readily available for GNP per capita figures. These are essentially estimates of average income, calculated by dividing the total value of a nation's production by its number of people. Even economists will accept that the resulting figures only rather imperfectly represent a nation's true wealth, but they do, at least, give some sort of picture of the 'pecking order'.

Actual figures quoted vary from year to year, both with actual changes in the economies of countries and with changes in currency exchange rates, but a typical figure for the average annual income in a poor country like Bangladesh will be only a few hundred dollars, while that in a rich country like the United States or Japan may be over 10,000 dollars.

Difference like this, of a hundred times, naturally arouse dismay among thinking people. What also causes disquiet is the fact that even in countries where the average income is extremely low, there will still be an 'economic elite' who are relatively well off, who can 'afford video recorders and big cars while the general population is starving'. Even in the poorest country with a functioning government, the people running the government may be expected to 'enjoy the fruits of office' in some financially-attractive way.

There is no doubt that the sort of income imbalance which does occur in poorer countries, and even in richer ones, is regarded with considerable moral antipathy. Emotive terms such as 'obscenely rich' are common. There is a strong general feeling that those who are rich should give to those who are poor, to equalize the position — a sort of income tight-banding.

What the GNP figures do not show, is any indication of this *spread* of incomes, they do not give the Standard Deviations from the mean for different countries. Far more detailed records are needed to calculate such figures for an individual country, and if such figures are available and used to calculate a distribution curve, this will not be a nice symmetrical bell curve because an appreciable part of the population will have zero income, cutting off the left-hand side of the curve.

This is all very interesting, but what is it to do with Matrix Thinking? We shall see that using MT to analyse this situation will give rather different outcomes to the conventional view.

Ringling Up in Denpasar

If you want to make a phone call in Denpasar, the capital of the Indonesian island of Bali,

don't bother looking for a public phone box. There aren't any.

Nor are there lines of telephone cables festooning the streets. The reason is that all telephones in Denpasar are run via satellite dishes. If you phone up your friend in the office ten metres across the street, the signal will travel some 80,000 kilometres to a synchronous Earth satellite and back.

The Indonesian situation is not a unique one. Some companies operating mines in remote parts of Western Australia have telephone numbers in a northern Perth suburb. This suburb is the home for a communications utility operating satellite services; they take your phone call and channel it though to the mine site using their satellites.

The Indonesians make extensive use of satellite phone services. But they have diversity in their approach. In Singaraja, the chief town in northern Bali, telephone lines appear along the streets and some of these run to public phone boxes. So the lack of boxes in Denpasar is not a matter of tight-banded government policy, but has some other cause.

The Need for High-Tech Systems

The Denpasar region of Bali is the heart of Indonesia's foremost tourist area. Millions of visitors come in from overseas, spending freely, but demanding 'modern' facilities, safe drinking water, good medical attention where necessary — all the things they would take for granted at home.

The bulk of the Balinese people lack all such facilities. 'Basic' facilities such as flush toilets are not a feature of these people's lives, instead they are the preserve of an alien culture of 'obscenely rich' visiting over-people, people who spend money in vast careless amounts with no thought of its effect on their traditional way of life. It is fortunate that the Balinese have vast stocks of infocap in forms other than money, in a resilient social system which has enabled them to absorb foreign jolts which would have wrecked many other systems.

All the facilities required by foreign tourists, including telephone and fax communication, have been made available in Denpasar. The Indonesians had no choice, their provision was just the entrance ticket into the game of attracting overseas tourist trade.

The point being made is this. To run any system efficiently, facilities and systems must exist within it at least to the level where communication can be made with neighbouring systems, where trade and commerce with outsiders are possible, where the country can maintain representation outside itself. If *every* person in Burkina Faso (yes, that is a real country) had only the *average* national income, then that poor African state would contain no telephones, no cars, no hospitals, no hotels for agricultural advisers to stay in.

Proposition 109C**. *To function effectively, all systems must include sufficient high-value systems to permit communication and interchange with neighbouring systems*

We can give a visual representation of this situation (Figure 109.4).

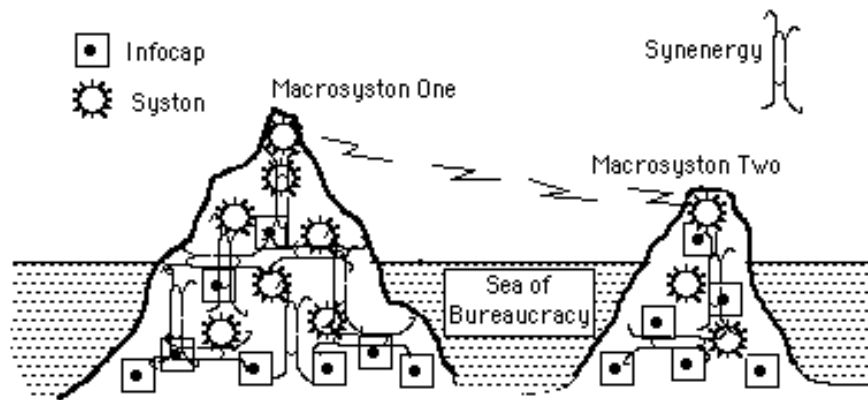


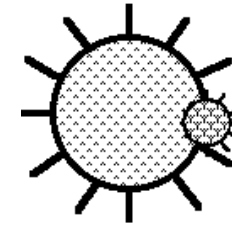
Fig. 109.4. Communication between Island Systems

In this model, each macrosystem is an island rising from a sea. Each macrosystem is built up of blocks of infocap and smaller systems, glued together with synenergy, just as with any other system. Separating the two islands is a sea which prevents easy direct contact, a sea made up of bureaucracy, excess nationalism, or other form of SIOS (Chapter 104).

In order to communicate with its neighbour, each island must be built up at least to the level where it extends above the sea. Only when it is above sea level can it effectively communicate, or maintain itself, there is a minimum threshold it must reach. Its neighbours may tower kilometres higher, but as long as all are above the minimum level, co-existence, communication, and development can continue.

What happens when the sea-level rises is another story. We can now move on to look at another aspect of national systems, when a sort of emotional continental drift takes them apart, or slams them together.

Chapter 110



PUSHING OFF FROM POMMYLAND — Syston Budding and Merger

“And now in age I bud again, after so many deaths I live and write”

— George Herbert

When I left England in 1964 to come to Australia, the country I came to was a remote and rural part of Britain. No-one talked about any such thing as an Australian Citizen; the qualification to be able to vote, and the description used on Australian passports, was British Subject. The Australian currency used the same pounds, shillings and pence divisions as the British, and although a conversion rate was applied, it was fixed — one British pound was worth exactly 1.25 Australian ones.

Trade between Britain and Australia was almost unrestricted by government edicts. The National Anthem of Australia was the same as that of Britain — God Save the Queen. The Australian flag was just the Union Jack with the Southern Cross and a states star added.

In those days, Australian youngsters approaching adulthood would talk about and take trips ‘home’ to Britain — even though they had been born in Australia and had never left it. The emotional, legal, and commercial ties in those days were very close — even the highest avenue of legal appeal was to the Queen’s Privy Counsel in England.

Now all that has changed. From being a much more distant and larger equivalent to the Channel Islands, Australia has forged its own, independent existence. Like its youngsters, who still make The Trip to live and work in Britain for a while, it is moving into adulthood, but as a nation.

No doubt the process was stimulated, even triggered, by external events. Britain was starting the slow process of ‘Moving into Europe’ — a syston merger rather than a syston budding. In this process, it was obliged to abandon its parental role towards its former colonies.

The free movement of population between the two countries was wound down, with the

introduction of visas and working permits on both sides. The shared citizenship levels, with Australians holding seats in the British Parliament, and vice versa, faded away. ‘Commonwealth Preference’ in trade disappeared.

A new National Anthem — Advance Australia Fair — was adopted. The portrait of the sovereign disappeared from Australian stamps, and on Australian banknotes it faded to an occasional watermark. And well before Britain, in 1966, Australia adopted decimal currency with a new monetary unit, the Australian dollar. These were exchanged at the rate of two of the new dollars to the old pound.

Much of the action was undertaken by the reformist Labor government of Gough Whitlam. The changes were disliked by some, but most accepted them as a logical and inevitable part of ‘growing up’. And today, very few Australians would seek to see the situation put back to the old position, even if it was practicable. It was time to cut the apron strings.

Has Something Gone Missing?

The changes just described in the budding of the Australia syston from the British one were, of course, recognized. The diminishment of emotional ties, with a shrinking proportion of Australians stemming from British stock, due to increasing migration first from elsewhere in Europe, and then from Asia, was regretted, but also accepted as inevitable.

It seems to me that as well as all the recognized changes, a further largely unrecognized change took place as Australia moved to assert its new individual identity, and this was a change which has had a profound impact on Australia’s current fortunes and world position.

My first job in Australia was at the University of Western Australia. This was a period when Australian universities were undergoing rapid expansion, and staff were being actively recruited from overseas. In the University as a whole, over half the academic staff were from Britain. In the department I worked in, none of the four most senior positions were held by Australians, and few at the next rung down.

Of course universities are not typical of the whole population, and in any event a constant interchange and introduction of new blood into universities world-wide is usually viewed as a good thing. Certainly Matrix Thinking would lead to the view that the infocap transfer and synenergy flows involved were positive factors.

But in Australia, the bringing-in of overseas talent was viewed, and still is, as a device for ‘bringing the country up to speed’, a device which would be no longer necessary as the country built up its own talents. And now it is evident that the flow of overseas academics into Australian universities is down to a tiny fraction of what it was in the early 60’s. In the MT approach, this cutting of an infocap flow to a trickle must inevitably be a negative factor.

Taking the Washing back to Mum

But back to the Unseen but Profound change. It seems to me that the really big effect of the Australian bud-off from Britain was this: it effectively partitioned off a complex syston into two parts, a parent-home one and a separate, new-adult one. It was a time for leaving the nest.

Almost any young person who leaves their comfortable parents’ home, to set up in a flat

or share a house with other young people, comes up against a shock or two in their new ‘independent’ life. All sorts of services and goods which were supplied silently and unrealized by the home-syston suddenly have to be thought about and paid for, and their costs are astonishingly high.

And all the ‘housekeeping’ jobs, the washing, the cleaning, the shopping — they do take a lot of time. Even youngsters who know, from what they have been told, that the problems are there, get some surprises and setbacks from their plunge into independence.

To some extent, the home-leavers will have been conditioned for their budding action by what we call instinct, and wise parental ‘training’. In the teens, a spirit of independence builds up in children, a disinclination to accept what Dad or Mum says as being right without question, an urge to be different from the old fuddy-duddies.

Even so, those leaving home who are somewhat insulated in this way, often still experience a sense of loss, a feeling of disorientation. What they are suffering from is, in fact, a loss of infocap availability, a decrease in synenergy flow. No longer can they yell out from a distant part of the house “Mum, what time does the bus leave?”, or “Dad, where’s the bike pump?” and have the home-syston respond. And at a more complex level, no longer is an on-tap source of advice, opinion, and support available on everything from getting the paint spots off clothes to going through all the trauma of buying a house.

And that was the silent loss which afflicted Australia when it broke away from Britain — the raising of synenergy barriers, the loss of easy infocap flow as the Australia syston split off from the Britain one.

Proposition 110A. Australia suffered a marked reduction in synenergy flow when it moved toward full independence from Britain*

Coupled with this change was an important economic aspect. If one of the basic propositions put forward in this book is valid, the one that says infocap aggregates and breeds to provide a living wage for its syston, then the gating off of all the British infocap from Australian participation would clearly cut the Australian infocap dividends. Here is a possible base reason for the acknowledged slide of Australia right down the international wealth charts.

Let us now try to bring out some instances and parallels to make this occurrence clearer. The first example is with cultural matters.

Bring on the Cultural Cringe

A well-recognized social phenomenon in Australia is that of the ‘Cultural Cringe’. In a feeling that permeates through much of the country, anything in the area of the arts or entertainment that is any good may be expected to come from ‘overseas’. Anything that originated and developed in Australia, and is still here, can’t be expected to amount to much.

Of course this general attitude is thought to be Bad. The MT interpretation would be that the Australia-syston has a mild case of the equivalent of an inferiority complex. And its reaction to this is typical, a mild case of SIOS (Chapter 104).

The SIOS shows itself in such things as government-imposed minimum ‘Australian’

content in television programmes, and in actors' union agreements on the restricted use of foreign performers in Australian-made films. The negative MT view of such restrictions will be clarified as we proceed in this book, but it cannot be said that the reaction of the Australia-syston in this case is any different to that occurring elsewhere around the world.

The point here is this. At the present time in Australia, the SIOS/ Cultural Cringe feeling applies fairly generally to all countries outside Australia itself, with the exception of 'poor-cousin' New Zealand. A prominent pop singer from England, visiting Perth for a concert, would be similarly regarded as would one from the United States, or from Denmark.

Forty years ago, or even thirty years ago, the British performer would have been regarded differently to the others. At that time, Britain was still 'home' to Australians, and a British pop singer would be regarded more or less as someone from that part of the Britain/Australia/Commonwealth joint syston which had specialization in pop singing and culture.

We can bring this point out more in the next section, with an example where syston budding has not yet taken place. But first, the comment should be made that the cultural example is just one of the many areas where the Britain/Australia split has thrown up synenergy barriers, mostly cutting Australia off from an unrealized reliance on a parent they have moved away from.

Not only culture, but also business, manufacturing, engineering, and languages — in Australian schools thirty years ago, the schools which taught foreign languages offered French and German almost exclusively. Useful languages for dealing with close neighbours, not so appropriate for a part of the syston sent out to work up a remote colony. Now Australia has started to 'go native' in its Oceania colony, and begun to pick up the local languages of Japanese and Indonesian.

And the most strongly-effective barrier of all — research. This area, the very hub of infocap generation, was almost entirely gated off by the Australia/Britain division. For most enterprises, Australia was only the Branch Office, and branch offices don't do research. Or set policies.

The University of Meekatharra

Many years ago a colleague offered to support my application for the Chair in Nut Growing at the University of Meekatharra, once the professorship had been established. It was, of course, a joke.

Meekatharra is a tiny and isolated town in the outback of Western Australia, in fact an archetype for such very isolated towns. One would guess that it would be one of the least likely places in the State at which a university might ever be established.

In fact, at the present time, Western Australia has five universities, all established in Perth. Perth typifies the Australian habit of bunching population, as it contains two-thirds of the entire population and is stuck down in the southwest corner of the State.

In addition to education, in line with its population concentration, Perth is also the natural centre for arts, entertainment, business, you name it. Such research as goes on in WA takes place there unless there are compelling reasons otherwise.

All the 'brain' of the state-syston is concentrated down in the bottom left-hand bit. Of

course, Western Australia is a huge state. If it was reflected in the Equator, and superimposed at the same latitudes on North America, its colder boundary would be in central California. Its more tropical boundary would extend down to . . .? Venezuela.

Even the regional administration of this area gravitates towards Perth. The Bishop of the North West, whose see covers the greater part of the state, is based in Geraldton, less than 400 km north of Perth. His 'parish' goes on for some 2000 km more to the northeast.

So if you live in Meekatharra, or Kununurra in the extreme north, or in one of the new mining towns of the Pilbara, and you want to access higher education, or specialist medical services, or mineral processing research, or a live orchestral concert, you have to turn to Perth. In a more recent development, the 'fly-in, fly-out' operation, you even live in Perth and work remotely. If you work for, say, the Argyle Diamond mines, your home, children's schools, family, shops, and clubs may be in Perth, but your trip to work for your next 2- or 3-week shift will involve a plane flight of over 2000 km instead of a car ride.

There must be few places in the world which have this degree of centralization. For someone in England, the concept of needing to fly the distance to Marrakesh in Morocco to get a new pair of glasses would seem incredible. Of course, this may all change. Much of the gold, iron ore, natural gas, and other mineral wealth of the state is in the north, and the population centres there will inevitably grow and become more self-sufficient as they accumulate infrastructure/infocap.

People have suggested that it could be a logical move, at some time in the future, to divide WA up into two separate states, one in the north and one in the south. However, to contemplate such a move today would be completely untenable — it would leave the North without most of the necessary control infrastructure, all that would still be concentrated in the South. The separation of Australia from Britain/Australia was by no means as extreme as our North-South split would be, but the parallel does point up the implications of synenergy loss through syston splitting.

Digging the Long Moat

Interestingly enough, Western Australia has itself attempted such a splitting process, away from the rest of Australia. When, in 1901, the various independent Australian colonies entered the new federal structure, the Commonwealth of Australia, WA was the most reluctant and the last to agree. It had its own independent origins, and had never been part of the colonial structure of the East — all of eastern Australia, and even New Zealand, had once been under the control of, or part of, the colony of New South Wales, which had gradually split off territory to form new independent jurisdictions. And ever since, there has been a greater or lesser feeling of dissatisfaction in WA with the 'heavy-handed control' exerted by the 'Canberra Mandarins' over state affairs.

An example of this control concerns WA's iron ore deposits. For many, many years the Australian Government, which had control over external trade, refused to allow the export of iron ore from WA, on the grounds that there wasn't much of it, and Australia needed to keep it for itself. Of course this notion was completely ignorant, in fact WA has perhaps the largest iron ore deposits in the world.

Eventually the Canberra resistance was worn down, and what is now a very major export earner for Australia began. In an illuminating episode, the Federal Minister for Mining once flew over to WA to officially open one of the new mining sites, and to everyone's astonishment, proceeded to rail at the Company officials in his speech at some perceived bad intent in the way the Company had brought the project to fruition. With considerable aplomb, the Company Head replied that his organization's purpose was to take enough iron ore out of the ground in the West, so that the East would become top-heavy enough for Australia to tilt over and put Canberra beneath the waves!

Now that may be amusing, and perhaps similar instances of dissatisfaction with central control may be found all over the world. But in WA, the divisions have gone a great deal deeper.

In the early 1930s, West Australians were very dissatisfied indeed with central power, and there was a general desire for the State to pull out altogether from the federation. The WA Parliament passed the necessary laws, and a Referendum was held as to whether the secession should take place (Figure 110.1).

The Referendum for Secession was passed in WA by a good majority, and the Federal Parliament was duly petitioned to arrange secession. They refused to allow it.

In 1974, another strong Secessionist Movement was active in WA, this time exacerbated by the ludicrous iron ore export matter, and to some extent supported by certain mining interests. The direct government-to-government approach in 1934 having proved fruitless, the mechanism in 1974 was to get Secessionist members into the two houses of the Federal Parliament and work from there (Figure 110.2).

The secession moves of the 1970s did not get anywhere, either. Other episodes at other times have never got very far. Perhaps we can look for a moment at what is the origin of these recurring urges arising in the WA-syston.

Let My People Go . . .

Basically, the urge for independence seems to have its origin in the feeling that the local syston is being short-changed in comparison with other members of a wider syston, who are effectively wielding power to the advantage of their own, local systons. On the face of it, this feeling would appear justified by the facts.

Australians are always being urged to Export, and WA is the major exporting state of Australia, in spite of it having only around one-tenth of the population. Its principal exports

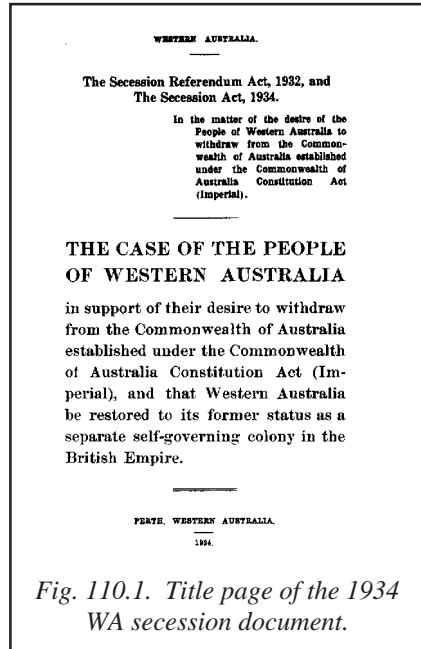


Fig. 110.1. Title page of the 1934 WA secession document.

are minerals and farm products, typified by iron ore, wheat, and wool.

All these products have to compete on an unprotected basis on world markets. In the case of wheat, the current position is harder still, as our products have to compete against ones subsidized on the international market, for example by the US, or overcome stiff tariff barriers, as with the European Common Market.

On the other hand, the bulk of manufacturing in Australia is done in the Eastern States (which locally means everywhere except WA), particularly in New South Wales and Victoria. In the past, these industries, such as producers of cars and clothes, have been heavily 'protected' by the imposition of high tariffs and taxes on competing products from overseas.

In economic matters there is seldom any general agreement to be found, but even so most economists and politicians would accept that the 'protected' industries are being subsidized by those that are not 'protected'. Whether such action is ever justified or not is a complex affair which will be looked at later in this book. The currently developing general feeling is that subsidizing for export and penalizing imports is basically not helpful in the long term, and gradually tariff barriers and the like (ie infocap barriers) are being dismantled.

In the case of WA, the 'unprotected' producers of minerals and farm products get their income in open-market dollars, but for their vehicles, clothes, and other consumer items they have to pay prices which are swollen by Federal restrictions and tariffs above what they could buy for on the open world market.

On a straight book-keeping basis, WA would clearly be better off financially if it could become an independent nation, buying all its requirements in a free market, while the rest of Australia would be much worse off. Hence the reluctance for such action in the East, which has the majority of population, votes, and effective majority control.

Taking the General View

Let us now look at this matter through MT eyes. I suggest that WA's desire for independence is just one expression of a general urge to independence which permeates

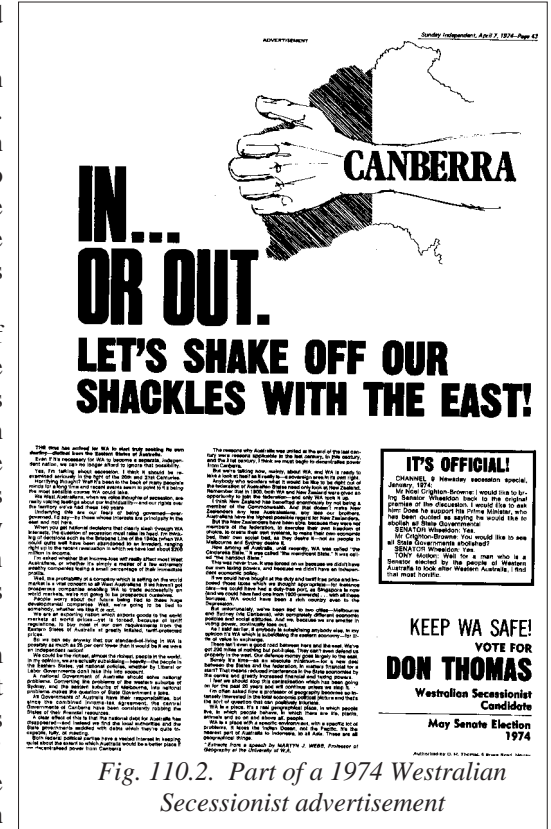


Fig. 110.2. Part of a 1974 Westralian Secessionist advertisement

through groupings which exist within a wider system. These groupings may not yet have a complete set of the trappings and functions which would qualify them as independent systems, but they believe that they can ‘go it alone’.

Proposition 110B**. *An ‘Urge for Independence’ will always tend to appear in groupings within a wider system which believe that they will be advantaged by independence*

It is of course a general and natural thing that any group will have feelings of being disadvantaged vis-a-vis others within their wider system. In some ways, this ‘us against them’ feeling is part of the mechanism which holds the grouping together.

In the WA secession matter, the disadvantage is overtly presented as an economic one. In fact, the underlying feeling is more resentment against poor use of effective power, “those idiots from the East thinking they know what’s best for us” — see Fig. 110.2!

In other parts of the world, the Urge for Independence has other overt bases. In WA, at least the argument has been kept non-violent. When control of territory, religious matters, language differences, and unwarranted use of force are involved, the clashes may become violent indeed.

In almost all the worst cases, there are strong synergy barriers in existence around the participating groups, and SIOS reigns everywhere, ‘outsiders’ being condemned purely because of their different ethnic, social, or economic labels.

There are current examples everywhere — in Canada, with the Quebec separatist movement, Yugoslavia, now a collage of different ethnic states, Russia — independent from the rest of the USSR but reluctant to allow any of its own parts independence, East Timor, Northern Ireland, Namibia, and on and on.

Later we will look at ways to avoid these problems of violence. For the moment we can just observe that the common element in all these conflicts, major and minor, is an urge for independence by a sub-system which is resisted by the wider system which encloses it.

Going Off with Grace

All right, we have now identified the two main opposing influences in the system budding/merger conflict. On the one hand, we have the Urge for Independence, which if it had no opposition, would fragment society completely down to the last individual. That influence breaks systems down into a larger number of smaller ones.

On the other, we have the urge to accumulate infocap and enjoy good synergy flows, an urge which leads to the formation of larger systems and the aggregation of smaller ones. This sort of inbuilt clumping tendency has been touched on earlier, as in Chapter 105. We might express it here formally.

Proposition 110C**. *Infocap will always tend to move from a dispersed to a clumped state, thus creating infocap-rich aggregations within an infocap-poorer medium*

Practical examples of this sort of occurrence are to be found everywhere. In countries with

large rural areas, a major factor in modern society has been the drift, or rush, of rural population to the towns — the ‘magnet of the city’. In individual terms, the common wisdom is expressed in such phrases as ‘the rich get richer, and the poor get poorer’.

In MT terms, this characteristic is only to be expected. It is another facet of Propositions 105M and 105N, which suggested that when infocap becomes concentrated enough, it breeds or increases of itself, and that the benefits of major increases are felt not only within the local system, but may propagate through wider and wider systems. So infocap clumping promotes infocap breeding, which leads to general benefits.

In addition, we have all the urges involving synergy which were mentioned in Chapter 106 — and, of course, synergy flows are viewed as the same thing as infocap flows in this book. Not only is synergy the means by which infocap becomes redistributed, it is also the driving force behind the redistribution.

What it appears to come down to, when the contrasting implications of Propositions 110B and 110C are considered, is that any real system situation is the result of a sometimes uneasy balance or stalemate between two opposing forces.

Proposition 110D*. *The current state of any system is a dynamic balance point between two forces, one acting to fragment it into smaller ones, and the other acting to merge it into larger ones*

We have looked at these matters in particular reference to countries and states, but as usual the Proposition is intended to be general throughout the Matrix. Another factor to be borne in mind is that no system is suspended in time, it will always be moving along the cycle of creation, development, maturity, decay, and death, and the dynamic balance point may be expected to change as this cycle is proceeded with.

In summary, the fate of a system which buds off from a larger one appears to depend on how good its existing infrastructure and reserves of every sort are. Australia obviously had enough infocap to go it alone, and was able to ‘leave home’ with grace, though not without major inner adjustments. Western Australia could possibly be viable alone, though with a relatively small population it would be hard for it to be a true independent nation. The infocap content of the north of WA is so low that a new State there would be unsupportable today.

There is a way in which a system can remain both small and independent. The infocap store upon which it depends for viability does not have to be self-owned, only available for use as needed. Smaller nations have always ‘contracted out’ part of their operations to larger ones.

Examples are in the many ‘British protectorates’ which once existed, small jurisdictions which made agreements with the British Government for armed protection in case of need. Diplomatic representation is often farmed out — Australia used to have only one embassy in South America, in countries outside Venezuela it relied on other powers to represent it.

Even in ‘internal’ matters, the trend is growing to contracting out. In Mozambique, both the principal port and the country’s railways are run under contract by the South African government. In a most interesting development in Indonesia, their Customs Service is run for them by a commercial Swiss company, which achieved “the apparently impossible: the end

of corruption in Jakarta's port" [Suharto, 1991]. In Queensland, many of the State's prisons are run by private contractors.

In the Iron Ore Country

Some years ago my wife had a contract with the iron ore producer, Mount Newman Mining, to write some computer software to monitor their electricity generation plant. This plant supplied not only the mine itself, but also the nearby town of Newman, where all the staff lived. Newman was, in fact, a company town, established in the middle of the bush to meet all the needs of the populace — houses, roads, shops, parks, schools, the lot. It was a huge chunk of infocap for the company to find.

Most of the computer software writing was done in Perth, but my wife still needed to fly up to Newman on several occasions to install, test, and refine the software. The company booked her onto the ordinary commercial flights for these visits.

She observed that many of these flights were largely filled with company personnel — the head office was in Perth, and there was a continual large flow of company staff back and forth. In retrospect, I can see that it was cheaper for the company this way — most of the Perth infrastructure was already there and not a company responsibility, while all minesite activities they somehow had to finance themselves.

My wife asked the company management if it would not be cheaper for them to run their own planes — the staff flow was clearly great enough to make this a viable proposition. The answer she was given was a good example of a Voluntary Rule. It was the company's policy not to do anything themselves which they could feasibly contract out to an independent organization at realistic cost.

This Rule went well beyond the airline matter. After all, many companies who are heavy users of aircraft would very justifiably see the airline business as very separate to their own and not an area they would want to get involved in. With Mount Newman, however, application of the Rule went deep within.

The company maintained large canteens to feed the shift workers, but these were serviced by an outside catering company under contract. Rubbish accumulating around the minesite was not picked up by company staff, but by an outside contractor. The company did not even pay its own accounts — these were handled by a large international service company.

In MT terms, in fact, Mount Newman Mining was moving towards being a composite entity, rather than an isolated syston sitting entirely within its own skin. Even in its legal basis, it was not an ordinary incorporated company, but instead was a partnership between two or more major incorporated companies.

I suspect that this tendency towards 'privatization' or contracting-out of syston-management services is a very promising one, with enormous scope for expansion in the future. From the MT viewpoint it incorporates many major advantages. Included among these is the possibility of competition between tenderers for contracts (which inevitably leads to improved efficiency in conventional terms), and the separation of syston decision-making, the main function of government or executive, from implementation of those decisions.

*Proposition 110E****. Systons are advantaged by contracting-out implementation of as many of their functions as possible*

This proposition is a major one in Matrix analysis and design considerations, and will be harked back to repeatedly in the rest of this book.

The Balkanization of Massachusetts

There is nothing new in the idea of contracting-out syston management functions, even at the political level. Mention has already been made of the status of some smaller countries as 'protectorates', countries which had arranged with some larger foreign power to provide armed support in case of need.

In an article in the Boston Sunday Globe, Robert Preer [1992] has examined the reactions of the many Massachusetts cities and town to continuing budget cuts. Preer states that the situation which he characterizes as 'the balkanization of Massachusetts' has been an enormous barrier to efficiency for decades. Now, under continuing budget pressures, the various municipalities are moving to more cost-effective practices.

Most of the moves involve regionalization or integration of services remaining under nominal municipality control, or privatization. The tiny 'balkanized' entities are retaining their identities but achieving cost efficiencies by ceasing to attempt to carry out all functions within their own tight syston skins. Instead these functions are run as joint services with other municipalities, or are contracted out to private organizations.

These functions cover a lot a ground — school systems, building inspection services, fire departments, police, accounting, purchasing, rubbish disposal, sewage treatment, even hospital management.

From the MT viewpoint, these moves, which have generally been very effective, are all in the same class of contracted-out functions. That is, something like rubbish disposal is still contracted-out, whether it is handled by a private company, or by a consortium or arrangement under the joint control of a number of municipalities.

It might be assumed that these moves merely take the Massachusetts arrangements closer to those in other parts of the world where they are already fully integrated. In Western Australia, for example, all public schools are under the control of the state's Ministry of Education, and individual municipalities have no say in their running. But there is a fundamental difference.

Contracting-out arrangements can always be altered, can always be switched to another, anticipatedly more effective contractor. Some municipalities have found that they can do some functions themselves more cheaply than any private contractor on offer — and cheapness or cost-efficiency is not always what the syston actually wanted, it might well be better off rather tidier at a slight increase in cost. But when the new improved offer comes along, it can be tried and adopted easily.

It really does not matter what proportion of municipality-syston functions are contracted out in a particular case, at a particular time. The important thing is that all the contracts or

arrangements will be renewed or reviewed at some time, and then advantage can be taken of whatever competition is offered at that time. The municipality-syston retains and enhances its identity not by doing things, but by authorizing them to be paid for at the appropriate times.

In Britain, most schools are under the control of the individual county authorities. Britain is quite densely-packed, and it is quite normal for a teacher to live in one county and travel across some nominal administrative boundary to work for a different county authority seen as offering better pay or conditions. So competition has some effect.

In Western Australia, where the nearest competing education authority may be 2000 kilometres away, there is no such competition.

I believe that there may well be both scope and advantage for contracting-out syston functions at much higher levels, at state and country levels. We will look at this further in a later part of the book, when we come to examine political systems. For the moment, we might just note that it is a feature of the MT apparatus which we have developed, that it is general over any syston levels.

System Expansions and Mergers

So far, we have used country examples to look at the devolvement of new systons from parts of larger ones. We should look also at the expansion of existing systons and the formation of new systons through merger. In practice, these have been two totally different matters, both in the mechanics of the processes involved, and in their longer-term success or failure.

When it comes to countries, the straight merger of two or three comparable entities does not have a good historical record of success. In modern times, we have seen the formation and rapid fall-apart of entities such as the United Arab Republic, the Federation of Rhodesia and Nyasaland, and Malaysia with Singapore.

Mergers with larger numbers of comparable constituents seem to have more chance of survival. This applies to the Commonwealth of Australia, and even more so to the original formation of the United States of America. Perhaps in these cases, and in others going further back in history (Germany, Italy, etc.), the number of players is great enough to prevent any one of them assuming a dominant and hence controlling role.

Expansion of existing systons is quite different. In this case, the important pre-conditions for success seem to be an established, well-functioning single syston which is able to offer the prospective new member equal treatment with existing systons ('integration of services'), real possibilities of benefit through integration, and acceptance of diversity in what the new entrant brings in.

This seems to apply whether the expansion of the major syston is by conquest, as with the Roman Empire, by peaceful aggregation, as with the later US states, or by a mixture, as with the British Empire. All these successful expanding systons offered or offer the three pre-conditions mentioned. Attempts by large systons to expand through conquest, with the creation of 'under-systels' who do not have full equality, or at least the prospect of it, seem destined to split apart for one reason or another before very long.

Proposition 110F*. *Successful expansion of a syston by absorption of out-syston members relies on common and equal availability of syston services and also the acceptance of diversity in introduced out-syston characteristics.*

If you look at an area where syston expansion is likely to occur, it is instructive to consider how far these conditions are currently being met. Puerto Rico, for example, has the possibility of becoming one of the US states in the future. Already it uses US currency, the US Postal Service, and is effectively subject to many US laws and rules. But, although many among its population are truly bilingual, there are still many who speak only Spanish.

Language differences represent one of the greatest infocap barriers in the world. We will see repeated instances of this later in this book. Maintenance of more than one working language is a huge overhead for any syston government. In the case of Puerto Rico, the MT conclusion would be that integration within the USA would most likely be relatively unsuccessful unless the working language of the bulk of the population of the island had become English.

It is the same language-difference problem which currently seems likely to tear Canada apart, with French-speaking Quebec going its own way. This might well be the best way, both for Quebec and the rest of Canada. Clearly governments can cope with more than one official language, but the cost in syston management, in supply of syston services in more than language, is considerable. In the long run, a syston government which is even 5% less efficient because of language overheads will inevitably lose out.

Proposition 110G*. *Systons needing more than one language to function are at a disadvantage compared with single-language systons*

Clearly this Proposition is at odds with earlier ones which declaim the advantages of infocap diversity, among which language diversity is a major example. The distinction seems to come at the point where more than one language is needed to actually function properly. The conclusion is that an entity which offers syston-wide services in a single language, but has the capability of handling as many other languages as possible, will be in the best position.

Of course, in these examples, we have considered only natural human languages. In the case of systons other than countries, the languages may be synthetic, or non-speech based, as with the dance signals of a bee colony, or the chemical signals in an ant nest.

Trying to Find Out Where France Is

Where is France? Why, it is on the continent of Europe, to the southeast of Britain, right? Think again.

Well, it is true that most of France is there where you expect it. But quite a lot of other bits aren't. If you send a letter to someone in Point-à-Pitre, France 97110, you can do so without even realizing that it will end up at Guadeloupe in the Caribbean. Similarly for Réunion, in the Indian Ocean. And there is even a tiny bit of France itself on the North American continent

— Saint-Pierre et Miquelon (France 97500), just off the English-speaking Canadian province of Newfoundland.

The thing is, all these places are run from ‘the mainland’, officially known as ‘metropolitan France’, just like any other part of the country. The teachers in the schools are appointed and paid by the same Ministry of Education which does the job for the Paris hinterlands, these outliers vote for the same parliament as anybody else in France, and so on. Of course, everything is done in French — would you expect anything else?

In fact, France is an interesting example of a ‘distributed system’. This is unusual for a country, but common with some societies or associations. Another relatively new development in true distributed systems, and a very important one, is that of the multinational company.

A Tropical Paradise

There are parallels elsewhere. Some 1200 km southwest of Jakarta in Indonesia lie the Cocos Islands. I touched down there in 1964 on a migration flight to Australia. They were the archetypal tropical islands, with waving palms and splendid beaches, remote and almost untouched. The airstrip was not in regular commercial use, and I remember that staff of the local meteorological station were kind enough to set out fruit drinks on trestle tables for the plane passengers.

With the march of Progress, these magic islands are now part of Australia — postcode WA 6799. All the usual infrastructure, such as education and health services, roads and communications, and electoral facilities, are provided just as for anywhere else in Australia.

It was not always thus. Australia actually bought the Islands from John Clunies-Ross, as recently as in the 1970’s. They had been given to one of his ancestors, ‘in perpetuity’, by Queen Victoria, for services rendered.

Styled ‘the King of the Cocos’, the ruling Clunies-Ross scion ran the place like a feudal estate. The inhabitants, almost all of whom were of Malay stock, followed the Muslim religion, spoke principally Malay, and used plastic tokens for currency. This currency could be spent only at the Island Store owned by the rulers.

Of course all this was seen as Bad. Although the islanders’ health and welfare was looked after well by the Clunies-Ross family, they lacked political freedom. Eventually the Will to Order prevailed, and this minor messy situation was cleaned up by the purchase referred to, leaving the islanders free to move to ‘elsewhere in Australia’, where they had the opportunity to live almost as displaced persons in a much less pleasant climate. But two generations on, their children will be integrated.

Another Tropical Place

The Cocos Islands were small, their population few, and it was really no burden for Australia to take the place on and give it all the benefits of the Australian Way of Life. We had the infocap reserves to do this without having any material effect on the general population.

With another Australian Territory, however, the position was very different. Only a few hundred metres off the south coast of Papua New Guinea lies Kussa Island. Kussa Island is

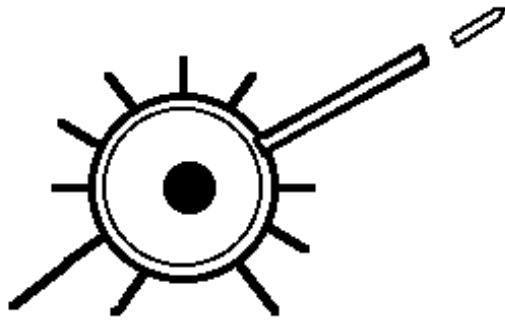
part of the State of Queensland, on the Australian side of the border, which almost touches Papua New Guinea itself.

In the 1960’s, Australia was still governing the two territories of Papua and New Guinea under various international mandates. Generally speaking, the inhabitants were satisfied with Australian administration, but the era of colonies was over, and it was time to make a break. Against their will, PNG was made independent.

Now possibly Australia could have afforded to maintain the economic costs of providing infrastructure services to PNG. Australia still continues to provide economic aid to them. But with its untamed jungle, precipitous terrain, and primitive peoples, there would have been no way that Australia could ever have taken PNG on as an additional Australian state — the infocap deficiency was so enormous that the concept was not even considered.

In ways such as this, infocap and synergy stores and patterns determine world events. The forces which cause systems to split or merge, the synergy barriers which are raised or lowered to facilitate or enable these changes, give the clue to what will or may happen. Let us now look more closely at these barriers.

Chapter 111



THE FOREIGN IDEAS REVIEW BOARD — Syston Openness

Sydney, Tuesday: *Professor Will Blockett, Chairman of Australia's Foreign Ideas Review Board, today defended the FIRB's decision to ban the import and use of the new, high-efficiency electric motors in Australia.*

"This is technology which we do not need", Professor Blockett said. "Australian industry already has a large electric motor manufacturing sector which would be harmed by these imports. And, even if arrangements were made for our manufacturers in this area to produce these motors themselves, there would be a significant outflow of funds overseas to cover the cost of licensing fees to the developers."

Not Quite True

All right, I admit it — that was not a real news item, it was a spoof. Of course Australia does not actually have a Foreign Ideas Review Board, and is not in the habit of banning technology from outside. The whole idea is ridiculous.

And yet . . . Australia does have a FIRB, the Foreign Investment Review Board. It can act to ban the import of funds from overseas, and frequently does. And, for some reason, nobody says that *that* is ridiculous. Why?

Well, of course, the the two things are quite different, aren't they? Foreign investment in Australia is monitored because, so the reasoning goes, it is important that foreigners don't get Control of too many things in Australia, particularly things involving land. And if these foreigners are here, riding their capital on our economy and exporting the profits back to their own countries, at the very least we need to know about it. Consider the newspaper item reproduced in Fig. 111.1.

Foreign owners to face register

By JOHN McGLUE

FOREIGN corporations or people who fail to notify the State Government of their interest in WA property in a new register of foreign ownership will be forced to sell their assets under proposed legislation.

Planning Minister David Smith said yesterday that the long-promised legislation establishing the register of foreign ownership of property would be introduced in the autumn session of Parliament.

He said the Government had decided against some more draconian penalties for offenders, such as forfeiture of title, in favour of an obligation to sell and a fine.

Mr Smith was responding to renewed pressure from National Party Deputy Leader Monty House.

Mr House said yesterday the National Party was not prepared to give the Government any more time to introduce its own legislation and he would introduce a private member's Bill when Parliament resumed.

Mr House said changes to foreign investment guidelines announced in Prime Minister Paul Keating's economic statement last week had given even greater urgency to the need to establish the property register.

Under the new rules,

the threshold for foreign purchases which need Foreign Investment Review Board approval will rise from \$3 million to \$50 million.

"That's a huge increase," Mr House said.

"That covers just about everything in the state.

"I'm not opposed to foreign ownership but I believe West Australians have a right to know what land is owned by foreigners."

It is 18 months since Premier Carmen Lawrence said the Government would legislate to establish a foreign ownership register.

Dr Lawrence has claimed the property industry must be properly consulted before legislation is introduced.

Yesterday, Mr Smith said draft legislation had been sent to the Department of Land Administration for comment.

He said the scheduled start date was October 1. First-year establishment and running costs would be \$600,000 and the annual cost would be \$350,000.

Mr Smith said foreign investors who already owned property in WA would be given a year to register their interests after which the law would be enforced.

All very reasonable? I think not. We could, perhaps, ask first what the proposed legislation is about, and then ask what it is for.

What is the legislation about? Why, it is for setting up a Register on which will be written the names of Foreign owners of land in WA and how much that land is worth. What is it for? Why, it is so that We (presumably Syston=people of WA) shall be able to consult such a register and, presumably, make use of the information contained therein.

Nailing the Foreign Devils

Suppose we step back from the whole matter and look at it more remotely. There are these people in one of the states of a quite large country, who want to write down the names of people of a certain class who are recorded as owning land in that state. Right?

The first thing we can look at, but not the most important, is whether it is practicable. And when you look at the nitty-gritty of it, it can be easily seen that it is not. True, it is quite feasible to pass legislation that such a thing shall be done, with provisions and mechanisms to 'ensure' this. But it is quite another thing to try and apply such legislation, when out of the woodwork come all the real cases which any actual legislation cannot hope to cover, cannot hope to comprehend.

First, how to define 'Foreign'. In theoretical terms, WA State legislation would normally view this label as applying to entities — systons — based outside the State. This is the case with business names legislation, for example, where a business name may be registered in WA but owned by a company registered in Sydney. In WA law, that company is classed as a 'foreign' company, and must nominate an agent resident within the State to act for the company.

Of course, the obvious intent of the Foreign Register legislation above is to list owners who are foreign vis-a-vis Australia. There are two

Fig. 111.1. From the 'West Australian', 1992 March 3

main classes of owners who may appear on land title documents, ‘real persons’ or individuals, and ‘corporate persons’ such as companies or incorporated associations. We can conveniently forget about more hazy systems, such as local authorities from other states, private US universities, associations incorporated by Royal Charter of the reigning British sovereign, and international development agencies.

Let’s first talk about companies. Australia has recently moved toward central, nationwide registration of companies, but still the majority of existing ‘Australian’ companies were incorporated under older state or territory legislations, sometimes differing markedly from each other. Even so, all companies registered within Australia and still operating now have an Australian Company Number or ACN. So it should be easy to pick the companies who are Foreign, they are the ones who don’t have an ACN.

No such luck. What the Foreign Register legislation is intended to catch, is the companies who are foreign-owned. In practice, overseas-based companies who are active within WA will routinely register an Australian company and operate within that here. And in the past, many out-of-state Australian companies would have done the same.

So on the title deeds of the land are the names of a company or companies, or of individuals, or a combination of both. There is no way of determining easily whether these companies are, one or more steps back, foreign-owned. Nor is there any consideration given to the proportion of a company which is foreign-owned, or indeed any way of defining it.

Consider an example. The Tasmanian Sprocket Co. Pty Ltd was registered as a Tasmanian company in 1948, and has sold sprockets in WA for many years. It owns a warehouse in WA which it bought in 1960, and which it used to have as its registered address, as a foreign company, for trading within WA. That is the address which appears on the title deeds.

Over the years, Tasmanian Sprocket prospered and grew, changed its name to Sprocket-Washer International, and in 1969 opened offices in New Zealand as well as Australia. Old Mr Robin Clash, who built up the original company, sent his son Kevin Clash to build up the New Zealand business, and there Kevin met a pretty young Kiwi girl who he married and settled down with.

In 1975, old Mr Robin died, and Kevin inherited. In 1983 he floated the company on the Australian Stock Exchange, gave 10% of the shares to his wife, kept 45% himself, and sold the rest. As SWI prospered and grew even further, the shares were traded on the New York Stock Exchange also, and the majority of the publicly-held 45% came to be owned by a large US insurance company. Purely by chance, the majority stakeholder in this US company was someone who had been born in Australia, but had taken back to the US by his American/Australian parents and normally used a US passport.

When the World Ends

But back to WA. There is a local saying: “Oh to be in WA when the world ends — everything happens here two years after everywhere else”. Certainly a lot of what happens elsewhere, places where Australian Rules football is not played, goes unremarked by the local people.

The company still owns the WA warehouse, and the original name of Tasmanian Sprocket

Co Pty Ltd still appears on the title deeds, and on the rates notices sent by the local council. Nobody cared that the name on the bottom of the rates cheque was Sprocket-Washer International, nor did they notice that it became General Industrial Facilities after the Indonesian/Korean merger.

Is the company involved a foreign company under the terms of the proposed legislation? You tell me.

An Individual Matter

All right, that is a sorry enough mess, now to look at individuals. Who is a Foreign Person in terms of WA or Australian law?

Presumably anyone who was born in Australia, or who has acquired a certificate of Australian citizenship, is not a Foreign Person. On the face of it, it might be thought that anyone outside these categories is a Foreigner in Australia.

If so, these dreaded Foreigners are thick upon the ground in WA. Huge numbers of settlers came to Australia from Britain in the days before there was formal Australian citizenship; these include Sir Charles Court, one of WA’s best-known former Premiers, who was brought out as a young child from the UK. Large numbers settled here from former parts of the British Empire, especially India, South Africa, and Malaya.

Some of these settlers will have formally acquired Australian citizenship, but many will have not, they will have had no reason to bother. A most unfortunate current case concerns a man who was brought out to Australia as a very young child from Britain with his parents; when he was in his late teens, his parents returned to Britain, and against his wishes (he was still legally a minor) took the boy with them.

Now this man has been struggling for several years to obtain permanent residency in Australia, struggling against the persistent refusal of the Australian immigration authorities to allow this. Australia is where he was brought up, where all his friends are — if he had older brothers or sisters who could not have been involuntarily removed from the country when he was, they may have remained here too. If he had married at 17, he probably would not have had to leave either.

Australia has huge numbers of New Zealanders living here, there is currently no restriction on movement of labour between the two countries. All these people are theoretically foreigners. Australia also has many perfectly legal migrants who are not yet eligible to acquire citizenship, and many more who are eligible but have not bothered. If your father died in Greece when your mother was 75, and you brought her out here to look after her, is there any point in pursuing citizenship for her now when she has trouble moving around, has little understanding of English, and has no intention of moving very far from your house for the rest of her life?

Current conveyancing procedures have no mechanism at all for examining the citizenship status of people whose names are to be placed on title deeds, and therefore no formulas for deciding the proportion of various real and corporate ‘joint tenants’ or ‘tenants in common’ which must be Australian, nor mechanisms for reviewing subsequent changes in status.

How about the other direction, property owned by Australians who live elsewhere? The

Tasmanian Sprocket example given above was a made-up one, but there are real examples of individuals who could run foul of the anti-foreigner legislation proposed for WA.

Bill Wyllie, often described as an expatriate Australian living permanently in Hong Kong, was the principal shareholder in a large local company, Universal Waldeck Ltd. At some stage he sold part of his holding to a colleague in Hong Kong, making the colleague the largest shareholder. Did property owned in WA by Universal Waldeck thus become foreign-owned?

Rupert Murdoch, the major newspaper proprietor, had considerable newspaper holdings in the United States, where he spent most time. Several years ago he took out American citizenship. Are his newspaper companies in Australia now foreign owned? If he had settled in Britain, and normally used a British passport, while retaining his Australian one, would this have altered the position? Would it have been different if he had gone to New Zealand? Or if one of his major institutional investors moved their head office from London to Melbourne?

The point is this. These real and imaginary examples suggest that attempts to enforce the sort of foreigner-biased legislation envisaged would be totally impractical, would provide nothing more than a lucrative field for lawyers to argue legal points on. But, even if this was not the case, what about the second question? What is the legislation intended to do?

But I WAS in Rome, and DID as the Romans Did . . . ?

Comments on the proposed legislation by the WA Government have included assurances to the effect that any action by them would stop short of expropriating the foreign-owned properties. Big deal!

So the intention of the legislation is not to steal properties back from foreigners. What, then, just harass them a bit for being foreigners?

On applying linear thinking to the situation, it is difficult to see any purposes for the legislation other than ones to allow discrimination against particular landowners for reasons quite unconnected with the land itself. The interesting thing is that both the WA and Australian governments have legislation and officially-based codes of practice which are supposed to oppose discrimination on the grounds of race.

In practice, foreign challenges based on either the letter or the spirit of such legislation or codes are routinely circumvented by governments. In a recent case, a Japanese-based company actually challenged the WA Government over the percentage of foreign ownership allowed for the Perth Casino. They got nowhere.

Again in standard logical terms, what reasons can be found to treat some business people or others carrying on normal activities in WA differently to others? With respect to land, in particular, what are foreigners going to do bad about it? Dig it up and take it away to Japan? The mining companies are strongly supported for this!

The obvious question to ask is why there should be any restrictions on foreign-owner operations in Australia other than those applying to anyone else — these are people who are in Rome, and are doing as the Romans do. The normal response is an assertion that “foreign control of local assets is not considered in the best interests of Australia”.

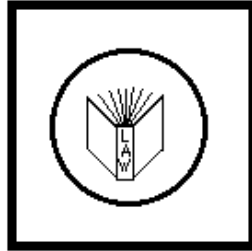
Taking the Matrix View

Let us again look further at the situation from the viewpoint of Matrix Thinking. We will not be concerned with aspects such as justice, fairness, or legality, but rather with trying to understand the situation as a whole. If we can do that, we may get an indication of how it could be improved.

The WA situation is not unique, parallels can be found everywhere around the world, now and in the past. All these situations are normal expressions of SIOS, the tendency of a syston to over-exert its natural immune functions which it uses to maintain its integrity, its skin.

An MT summary of WA’s proposed foreign-ownership legislation might be to say that it is a tangle of SIOS and Liechdorrino Delusion, lurching wildly off in an unspecified direction. This cryptic phrase will hopefully be clarified by the two following chapters.

Chapter 112



LIECHDORRINO LEGISLATION — Laying Down the Law

In the tiny mountainous republic of Liechdorrino, things were at crisis point, and an Emergency Cabinet Meeting was in session at the usual site behind the bakery. The problem was freight — Liechdorrino’s precipitous landscape made it impractical to install modern roads, and all supplies of food, fuel, videotapes and other necessities still had to be hauled up by mule over the narrow mountain paths. The ever-increasing freight costs were crippling the country’s economy.

Morosely the Prime Minister surveyed his colleagues and appealed for ideas — any ideas. “How about you, Josef?”, he said, addressing the Minister for Health, Education, Transport, Foreign Affairs, and Canoe Racing

Josef thought for a moment, then brightened. “The whole problem is with Gravity”, he said. “It is gravity which causes our high freight costs in hauling goods up the mountain paths. All we need to do is call the Parliament together and pass an Act to repeal the Law of Gravity!”.

Another Serious Joke . . .

That was another serious joke. A joke because, of course, laws passed by human agencies have no power to affect the fundamental laws of nature. And serious because, as we look around, we find no shortage at all of Josefs, or of Liechdorrino Legislation, in the human-based systems operating all around us.

Probably nowhere in the World will we find a Parliament willing to pass legislation to set the coefficient of friction of a particular metal. But legislation to set the price of a particular commodity — that’s quite a different matter. Or is it?

As we progress in this book we will come up against instance after instance of Liechdorrino Legislation, each invariably reflecting an underlying assumption that human laws, procedures, and regulations can overcome natural laws. We can call this misplaced belief the Liechdorrino

Delusion. Each of these instances is a product of linear thinking.

When Matrix Thinking is applied to instances of Liechdorrino Legislation, their real effect is seen for what it is — usually a transfer of a disadvantage or barrier from the point of examination to elsewhere in the system, or into other systems altogether. Like apparent instances of Perpetual Motion, the paradox arises because of the limited field of view. Widen the scope of the view, and the paradox disappears.

*Proposition 112A**. Human laws cannot overcome natural laws, only displace their effects elsewhere*

Working Out the Rules

In Chapter 108 we started to look at the concept of systems operating by their rules. These were rules specific to that system and its level, and the importance of working out which systems were actually active in any particular situation was stressed, because of the likelihood that systems at a broader or narrower level might have quite different rules. And, of course, when we are able to clearly localize and focus on the particular active system, it will be quite common for that system not to correspond exactly in location with the boundaries of other geographically or philosophically based systems, not to lie entirely within what might be seen as a ‘broader’ system.

If we are to avoid Liechdorrino Delusions in setting up an MT design, we need to be able to distinguish clearly between the different types of what are loosely called ‘laws’. We can also have a stab at working out what the general purpose or effect of the different classes of laws is.

Jurisdictions

When most people talk about laws they usually mean *Jurisdictional Laws*. These are essentially Territorial Laws, that is, they are constraints on behaviour, imposed by human agencies, which apply over a particular territory. The body of such laws for a particular territory is called a Jurisdiction, and this same word is often used to define the area of land over which it applies as well.

Jurisdictions have usually been built up and refined and altered over long periods of years. Some just grew, like Topsy. Usually, much of any jurisdiction is essentially borrowed or inherited from other systems. Some jurisdictions have, as their basis, a Constitution, a sort of base-level jurisdiction upon which all the rest is theoretically built.

In most systems the task of revising, updating, and extending the jurisdiction is performed by the Legislature, usually a branch of a parliament or similar body. It might be assumed that no system really changes so rapidly that a good basic set of laws would not suffice without continual hacking around, but in fact many countries expend incredibly large sums of money on this activity. Obviously a great deal more can be said on this topic, and in Part II of this book it will have some attention.

A feature of Jurisdictions is that they are essentially involuntary. In Chapter 103, it was mentioned that systems could be divided into exclusive and voluntary ones. A jurisdiction

essentially applies to an exclusive system, one in which a system had no choice in its membership.

For example, if you were born in Western Australia you really had little option but to conform with the laws of Western Australia, and beyond that with the laws of the Commonwealth of Australia, while you were living here. When you were a minor you could not influence such laws at all, now you are an adult you can at least add your vote to thousands of others supporting or opposing representatives who promise to support or oppose particular legislation.

Of course, you can change your jurisdiction by moving to somewhere else which has a different one, if they will accept you. But, like changing your religion, this may be easier said than done, and it may involve tremendous trauma for an individual who goes through such a change.

In other parts of the world, places which have what is called the Initiative, citizens have the right to initiate specific legislation. California is an example. There, grass-roots voters have been responsible for the creation of various laws which have come into effect quite independently of the political parties or lobby groups which officially form the Californian legislature. The Initiative is a very potent political tool and will also be considered further in Part II.

From the MT viewpoint, a jurisdiction is a very usual part of the skin/immune system which a human-based system builds around itself, to protect itself against other competing systems and to define itself as a working system within the Matrix swirl. As always, the skin itself consists of infocap/synergy barriers which must be passed through by any system attempting to switch systems. A system's jurisdiction is a particularly interesting part of this skin, in that it is a part which the system attempts to precisely and overtly define — many other skin elements have no such scrutiny.

***Proposition 112B**. Its Jurisdiction forms an important and defined part of a system's boundary**

This is How We Operate . . .

The second class of laws under which a system may operate is that of 'voluntary rules'. The general term we can use for this class is a Code, as in a Code of Ethics. In practice, a Code may be the set of Byelaws of a municipality, the Rules and Constitution of a scientific society or sports club, the basic operating procedures of a fast-food franchise chain, part of the contract or agreement for a mineral exploration joint venture, the rules of a religious order, or many other things.

Clearly a Code is rather different in nature to a Jurisdiction, although there will be instances which lie on the borderline of both. But essentially, a Code will apply to the operation of a voluntary system, one in which the system has a choice of belonging or not (and where belonging does not exclude the member from belonging to other similar organizations).

In the sense used here, a Code implies a set of rules which are voluntary because membership of the system to which they apply is voluntary. There is no suggestion that if you choose to belong to an organization, you do not have to obey its rules.

Another difference between a Code and a Jurisdiction is that a Code may be much less formally defined. Although a Code may have a written basis or component, much of it may be unwritten, unstated, or even unrealized. Much of a Code may consist of 'common usage', or even tradition. Even full-blown jurisdictions have an element of this, in their reliance on 'common law' and 'legal precedents' — parts of the practical operating code which are not parts of the formal written law.

At a much simpler system level, say that of a termite colony system, there is clearly no possibility of any written basis for the Code, in a human sense. Even here, though, there is basis for some sort of record of the code, in genetic material active in the system, or in structures passed on from one generation to the next.

In an earlier Proposition, 108C, I suggested that Codes can be designed and set up for particular classes of system, and that these Codes in fact define what the class of system is. It does seem to me that a clear appreciation of the nature of Codes is vital in designing or upgrading a system for a particular aim, as a Code is the analogue of a Jurisdiction in that it forms a vital part of the system skin, and this skin itself is fundamental to the successful working of the system.

***Proposition 112C**. Its Code is an important and defining part of a voluntary system's skin**

A point about both Jurisdictions and Codes is that they are subject to continual Testing, an unending process of verification here, now, in this instance. The same is true of the third class of laws — so-called Natural Laws. Let us now look at these.

Nature as She is Writ

As with the other classes of laws, many and varied are the names which have been applied to the 'natural laws'. Branch-of-Learning, Philosophy, Science, Belief, Discipline, these are some of them. Here I will use the last term, a Discipline, in the special sense of a body of natural laws applying in a particular area — not only in the scientific arena, where it is normal, but throughout the Matrix.

There is a general perception that natural laws are immutable and ubiquitous, they are always the same and apply throughout the entire universe and for all time. Everyone now takes this for granted. Interestingly enough, this view is relatively recent.

It was not until 1830 that Charles Lyell, a weak-eyed Scottish lawyer who became a brilliant geologist, put in print the notion that natural laws remain the same in different times and places. This notion was called the 'Principle of Uniformitarianism'. Lyell, now generally given the title of the 'Father of Geology', showed that an assumption such as this was essential to provide a rational explanation of regularities in the occurrence of young and old geological strata.

Previous to the acceptance of this theory — and there was considerable argument and furore when it was put forward, general acceptance took some 40 years — there was no general presumption that if a physical event occurred in a certain way in England, it would necessarily

behave the same way, under the same conditions, in Australia. Today almost the only remnants of such a belief are in postulated ‘alternative universes’ — almost ‘fantasy lands’ — where, for example, the value of pi might be different to what it is here.

More on this will come up elsewhere, clearly this sort of talk opens up many endless philosophical mazes. For the moment I will just comment that the general perception of the immutability of accepted natural laws is not strictly justified.

Energy is ALWAYS Conserved . . . Oh, Hullo Albert

The status of natural laws and Disciplines will be looked at more closely in Part II, in the chapter on Science and Research. As far as this chapter is concerned, a relevant point is that the components of a Discipline are subjected to the same continuous Testing as are the components of a Jurisdiction or a Code.

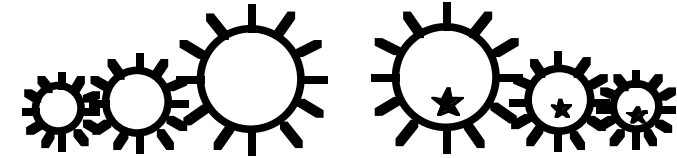
Further, the point was made at the start of this chapter that a Jurisdiction element — a law resulting from a human legislature — has to be distinguished from a Discipline element or natural law. Even so, it has been admitted that Jurisdictions grade softly into Codes, and the same soft gradation is apparent between Codes and Disciplines.

For example, in the termite example, some changes in syston operation may be halted by absence or presence of particular genes in the termites (a Code difference), while other changes may be made impossible by biochemical reaction restrictions (a Discipline difference). The line between these two is a fine one, and the fineness of such a Code/Discipline division may be apparent in far more complex human systons too.

In the MT spirit of generalization, it will be as well to point out that Disciplines, also, may be regarded as systons, systons with skins set by the limitations of natural laws as currently perceived — what a scientist might call Boundary Conditions. And, as before, the existence of boundary conditions both circumscribes the syston and also defines it, hence the Discipline of Physics embodies a set of natural laws, and only entities obeying those laws fit within the Discipline.

So the importance of syston skins in MT thinking is again stressed. Let us move on now to look more closely at the operation of these skins.

Chapter 113



WITH STARS UPON THARS — SIOS and Infocap Flow

*When the Star-Belly Sneetches had frankfurter roasts,
Or picnics or parties or marshmallow toasts,
They never invited the Plain-Belly Sneetches
They left them out cold, in the dark of the beaches*

— Dr Seuss [1961]

In his book *The Sneetches and other stories*, Dr Seuss tells a nice little story about some interesting creatures called the Sneetches.

There were, in effect, two different races of the Sneetches. The Star-Belly Sneetches looked identical to the Plain-Belly Sneetches except that they had bellies with stars; the others had ‘none upon thars’.

Of course, with a purely trivial difference like this, there should have been no difference in treatment of the two. But, as is the way of the world, there was. There was Discrimination! The star-belly sneetches were very stuck-up, refusing to talk to their plain-belly relatives, the star-belly children wouldn’t allow plain-belly ones to play in their ball games, and of course the plain-bellies missed out on all the social events too.

That was, until along came Sylvester McMonkey McBean and his wonderful machine for fixing stars upon bellies at three dollars each. The original star-bellies were, of course, soon aghast at no longer being able to tell the elite apart from the rabble.

But never fear, McBean came up with a second machine for removing stars from bellies — at ten dollars each this time. Through the machine went the star-belly sneetches, then the plains, then a frantic rush through star-on and star-off machines until . . .

*. . .when every last cent of their money was spent
The Fix-it-Up Chappie packed up and he went
And he laughed as he drove in his car up the beach
“They never will learn, no, you can’t teach a Sneetch!”*

As with many Dr Seuss stories, this one has a message. People have a natural tendency to look for features which distinguish ‘their’ group from the others, to look for some

characteristic of skin, height, hair, clothes, speech, or behaviour which will signal “he is one of us” or “she doesn’t belong”. And all efforts to hide or eliminate such differences tend to become negated — the group then just looks for some other distinguishing mark. Only those who trade on the equalizing mechanism get rich.

Us and Them

We looked at this sort of thing before, in Chapter 104. There it was suggested that all systons naturally develop the ability to distinguish their own members from out-syston entities, this mechanism forming part of the immune system and ‘skin’ of the syston. That the operation of this skin or boundary function is an essential part of successful syston functioning (Proposition 104A). That this skin/immune system can reject more than is desirable for the ultimate good of the syston, a syndrome assigned the name SIOS (Proposition 104C). And finally, in an attempt to set a possible criterion for determining when the immune reaction moves over from beneficial to harmful, the suggestion that this point is reached when a syston rejects more than the minimum needed to hold the syston together as a functioning entity (Proposition 104D).

Now we are at a point where we can look more closely at the nature of the syston skin, and attempt to work out whether actual present-day examples of this skin’s filtering action are likely to be to the syston’s ultimate benefit or harm. We can also look at various syston operations to decide whether they are immune functions or not.

There is an assessment which will become immediately apparent to the reader. The present MT analysis will inevitably conclude that most systons operate immune reaction levels far above the most beneficial, they are working well into the red on the SIOS gauge. This is particularly true if Proposition 104D is accepted.

Moreover, many of these immune reactions are not even recognized as such, or if they are, what MT would regard as excessively high levels are taken as natural and for the common good. Even when high SIOS levels are recognized, which means that there is recognition of overt discrimination occurring, actual application of laws and regulations by governments is often most convoluted and backhanded, with the effect of pretending discrimination does not exist where it is rampant.

And more common still is unrecognized discrimination, favouring systels and systons closer to your own without any clear realization that this is occurring. People who pride themselves on their lack of bias and prejudice — and who may be publicly recognized and applauded for their stance — can still be subject to this.

The general perception of bias and prejudice in human interactions is that it is Bad. MT looks on and analyses, views the whole picture from without, and makes comment but no judgement.

Look for the Birthmark

Beginning in the late 1960’s, the Government of Western Australia ran an advertising campaign on television and elsewhere, urging people to “Look for the Birthmark”.

The ‘Birthmark’ was a trademarked logo in the shape of a stylized outline of Western

Australia. Producers of goods within the State were encouraged to print the logo on their products, ‘foreign’ manufacturers from outside the State were not allowed to do this.

What was the basic rationale behind this campaign? There can be little doubt that the WA government of the day was working on the unstated but fundamental assumption that it was Better for the State if more of the goods consumed here were produced within the State’s borders rather than outside them. This viewpoint would be widely regarded as self-evident.

A Matter of Chance

Mention has already been made in Chapter 111 of the challenge of a Japanese company to the WA Government over the percentage foreign ownership permitted for the Burswood Island Casino in Perth. This casino was established under a specific Act of the WA Parliament, and this Act laid down a maximum percentage of foreign ownership which was permitted.

As the years wore on, changes in share ownership occurred which, it appeared, led to the maximum foreign ownership level being exceeded — there was, after all, no mechanism for checking percentage ‘foreign’ ownership of new buyers. Not much was done about this, in effect it was left to the relevant government minister to do something about it, if thought wise. The linear view of this matter might well be that the Minister was culpable in allowing breaches of the law to occur, if in fact they had.

The MT view of this matter would be quite different. In this particular instance, the MT deduction would probably be that it was undesirable that action in the matter should be left in the hands of an individual, the Minister concerned. Instead, it would be better for the WA-syston if the matter was divorced from individual control, if it was subject to ‘arms-lengthing’, in the phraseology which will appear in Chapter 120.

But at a far higher level than this parochial incident, there is a basic general principle to be formulated. The ‘Look for the Birthmark’ campaign had as a basic assumption the view that it would be better for the State if more of its trade was within the local syston rather than circulating among wider systons, that is other Australian States and other countries both. The casino legislation had as its basic assumption the view that it was better for the State if ‘foreign’ ownership of certain operations was limited, or at least ‘controlled’.

There is nothing in the Matrix Thinking approach which gives any support to these basic assumptions. Instead, the reverse is true. We can formulate the MT derivation in a basic Proposition.

Proposition 113A**. A syston will be ultimately disadvantaged if there is discrimination between the different systels operating within it***

This is one of the most important Propositions in this whole book. If accepted as valid, its implications ricochet throughout the whole of Society, throughout all the human-occupied Matrix. So it deserves some comment and discussion here.

First, ‘discrimination’ is used here in its normal meaning, that of different treatment of persons involved in some undertaking for reasons unconnected with their roles in that undertaking.

Second, the Proposition does not say that some people will be disadvantaged if others are given an unfair advantage. This latter view may well be true, it is a normal linear expression of “A fair go for everyone”, or “Equality within the Law” and such. But it is not what the Proposition says.

Instead, this Proposition suggests it is disadvantageous for the *Society which contains them* if there is discrimination among people. It is a view which may find ready acceptance, as it is close to current views that discrimination is morally bad, but that is not quite the same.

Third, note the use of the word ‘ultimately’. It will often be the case that some action taken by a system will be disadvantageous in the short term, but beneficial in the long. Examples are in the reunification of the two parts of Germany, and in the splitting up of the Soviet Union. It would be my guess that both these, diametrically opposed, actions will be to the eventual benefit of those involved, but the short-term pains are very obvious.

Of course I have a bit of a let-out in this assertion, in that if things don’t in fact improve, I could just say the time involved wasn’t ultimate enough. So I will box myself in a bit, and say that in this context, ‘ultimate’ means not longer than the average half-life of that sort of system (Chapter 105) or not longer than half the system cycle time (Chapter 118).

Fourth, the proposition does not distinguish between positive and negative discrimination, it suggests that all forms — for example giving special rights to some Australians solely because they have a proportion of aboriginal ancestry — are disadvantageous to the system.

Once again, even people who consider themselves unprejudiced and non-discriminatory are still likely to have difficulty in accepting instances of affirmative action as being undesirable. This Proposition — and in spite of its power and capacity for aiding decision-making, it is still at this point only a proposition — is one with very major implications.

Certainly the implications bear thinking about. On the local scene, these implications would include that discriminating against foreign companies, or officially encouraging local purchasing, is actually to the disadvantage of the State.

Time now for me to retreat behind the barriers, perhaps?

When the Lines are Down

We have looked, then, at efforts which system governments have exerted to influence movements within and through their boundaries. Let us now look at the nature of some of these movements, starting off with the movement of what I have suggested is the basic substance of Society — Infocap.

‘Freedom of Information’ is generally recognized as a vital component of a well-functioning society, and all the various forms of information and communication are certainly central to modern life. It is interesting to look at the various official and unofficial barriers to infocap flow which have arisen in the past and the present.

At the head of Chapter 111 there was a little parody of the FIRB, which was meant to bring out the folly of attempting to restrict the flow of ideas between systems. The flow of ideas is a very interesting topic on which analysis has already begun (see, for example, Henson [1987]). In this analysis, individual ideas are treated as similar to genes, and called ‘memes’. The study of their propagation and flow is called ‘memetics’, and the analysis used is based

on existing principles of epidemiology, the study of the propagation of diseases through a community.

Another approach with potential for expansion is that used in Christopher Alexander’s *A Pattern Language* [1977]. In this book, which is intended to provide a working structural apparatus for the design of buildings, towns, and all levels of human settlement, individual concepts are represented as ‘words’ of a ‘pattern language’ which is the design apparatus itself. Each word is a stripped-down concept, and the ‘grammar’ of the language defines the relationship between the concepts. For example, one concept is called ‘Neighborhood Boundary’, and the book notes that “if the boundary is too weak, the neighborhood will not be able to maintain its own identifiable character”.

In the discussion of this particular language element, the book notes that “the cell wall of an organic cell ... is not a surface which divides inside from outside, but a coherent entity in its own right, which preserves the functional integrity of the cell and also provides for a multitude of transactions between the cell interior and the ambient fluids”. The parallel between this treatment and my own representation of ‘system skins’ will be obvious.

In both communist and totalitarian states, repeated attempts have been made to restrict the flow of infocap in the past — jamming radio broadcasts, banning publications and magazines from abroad, censoring or prohibiting publications within the country, and so on. This is generally regarded as Bad.

Nevertheless, similar instances of infocap restriction occur within systems which regard themselves as democracies — censorship on the grounds of ‘public decency’, withholding of news ‘for security reasons’ in times of war, cabinet minutes and correspondence kept secret ‘in the public interest’, and so on.

From the MT viewpoint, unrestricted flow of infocap would be regarded as basic to the well-being of systems, since synergy or infocap flow is the basic force which ‘quickens’ an otherwise crystallized-out or latent system. This brings us to another fundamental Proposition:

Proposition 113B*. Any artificial restriction on the flow of infocap through its boundaries will be disadvantageous to a system***

And a further similar but distinct one:

Proposition 113C*. Any artificial restriction on the flow of infocap between its systems will be disadvantageous to a system***

Obviously these Propositions are very broad, with major implications. When we come to Chapter 116, on system government, we will then come to some limitations on this broadness. In both these Propositions, ‘artificial’ means imposed through some law or regulation, or their effective equivalent.

Nevertheless, the broad thrust of both these Propositions may be generally accepted, albeit with some reservations. In the current ethos, it is not right to keep people ignorant of what is going on, without very cogent reasons.

Hold On, I Didn't Mean That . . .

In the MT approach, infocap is a generalized term for many different categories of a substance which we are regarding as describable by generalized rules. One of these categories of infocap is money or capital.

The meaning of 'money' will be gone into in more detail in Chapter 201, on Matrix Economics, but here it is used in the generally accepted sense. If we then apply Proposition 113B to the case of transferring capital from Australia to overseas, or that of foreign owners buying Australian assets, the fall-out between current practice and MT derivation will be very obvious.

As regards 'taking money abroad', this is an area which many governments have tried to restrict quite closely in the past, both in the area of money value and that of actual currency notes. Presumably they have done this in the belief that it was for the good of their country. Even today, Australia imposes limitations on the amounts which a traveller can take out of the country in Australian banknotes, and most other countries have similar rules. The United States is perhaps the most prominent exception.

So MT would regard restrictions on the movement of paper money as relatively pointless for all concerned. However, recent developments in communications and computers have made the whole thing more or less irrelevant.

In the Kruger National Park

A few years ago I spent some days in the Kruger National Park in South Africa. There, the animals exist in an open system, it is the people who are confined within their vehicles, or within the few strongly fenced camps which have been carved out within the wilderness.

One evening, after a day in which we had seen hippos cavorting in the river, wild dogs and jackals trotting through the undergrowth, hyenas and vultures feasting on the residue of a lion kill, and baboons fooling around on top of our vehicle, we approached one of these isolated camps, miles away from civilization. There was adequate accommodation, in the form of circular thatched-roof huts called rondavels. And between two of these huts stood an automatic teller machine.

I tried a credit card with it, without success — it acknowledged me, but didn't recognize my account. Of course, South Africa is one of those countries with quite strong restrictions on movement of funds. But it must have worked with some cards, else there wouldn't have been any point in having the machine there — and I did see others getting money from it.

Put It on My Card

There is no doubt that the advent of international credit cards has changed the face of modern commerce. Send a fax to Washington, phone up a firm in London, and say "Put it on my card". Cross one international boundary after another, move out to the wood-carvers' village, don't bother about the local currencies, just hold out your card.

Behind this ease of use of money, of infocap, lies a vast, complicated and intertwined

network of communication channels and computers, working, checking, verifying, dipping into the records of this account here, that account ten thousand miles away. It works 24 hours a day without rest, and is distributed around the globe, perhaps the closest approach to date to a true artificial system. Who owns it? That's a hard question. Perhaps it owns itself.

Hard on the heels of this money-based global polyp comes another one, with tissues of optical-fibre cable, rather than copper wire. Here is a creature which will dispense infocap dollups more highly valued than money — entertainment, instruction, information. Will there still be a sales tax on video tapes, when you can just download a film from Argentina to suit your Spanish guest? Will you be one of the thousands tapping into the video camera on the remote Pacific island, watching the rollers break, hour after hour?

Take a Theoretical Look

Perhaps at this point we might divert for a moment to look at another aspect of inter-system infocap flow. That aspect is one which can go toward the assembly of MT theory.

It seems to me that all the conscious efforts of governments to restrict the flow of infocap into and out of their system are largely ineffective. In practice, if there is a natural disaster somewhere, or if a government project crashes, news always leaks out in the end. If there are restrictions on taking money abroad, there are always ways round these restrictions which people find and use. Usually, the only effect of such restrictions is to slow the flow down somewhat.

We have seen that in recent years, the flow of money through system boundaries has been greatly eased by the development of international credit cards. In a similar way, the flow of news and other information has been hugely facilitated by the introduction of fax machines and the Internet — not only written matter, but photos too speed around the world, to appear in your newspaper within hours. The whole situation has changed, not in degree but in kind, with the quantum leaps in telecommunication facilities based on communications satellites and optical cables.

Applying a little MT analysis, it is as if an 'infocap pressure head' builds up behind the synergy barriers, and these barriers are inevitably somewhat permeable, so that eventually most of the infocap leaks through.

*Proposition 113D**.* *System boundaries are always somewhat permeable to infocap flow*

Another Can of Worms

All right, we have looked at infocap flow between and within systems. Now to open another can of worms altogether, and look at the flow of *system*s within and between systems. We are talking about restrictions on internal travel and settlement, and about migration.

First, internal movement restrictions. In the western world, such restrictions are generally viewed as quite unacceptable, a mark of a totalitarian or communist regime. And there are relatively few instances to point to in the west — Australia, for example, does not permit its citizens to settle in its Norfolk Island territory without permission. And the practice of

requiring overseas-trained doctors to take up work in remote and unpopular parts of the country has virtually ceased, although the willingness to do so could still figure in approval of a migration application.

Obviously the position was very different in other parts of the world, such as in the former Soviet Union. Not only were major parts of the country closed off, but permits were required to move to the city or to work there. In the West, these restrictions would definitely be thought of as Bad.

Let My People Go . . .

What about restrictions on people leaving the country, whether for a trip or to emigrate permanently? Again, in the West such restrictions would be viewed as bad. They would be regarded as particularly outrageous if applied in the form of Exit Visas for foreign citizens to leave a country, as in the case of Iraq during the 1991 Gulf War. Holding foreigners charged with crimes within a country would, however, be regarded as acceptable — provided that they were not treated any worse than a local citizen accused of the same crime would be.

How about allowing your own citizens to leave? Again, this was an area where the old Soviet Union was regarded as behaving badly. Large numbers of potential emigrants, the so-called ‘Refuseniks’, built up in the USSR even though they had an assured place to migrate to. And often unreasonable restrictions were imposed — “Repay the cost of your education, which the State provided”, for example.

In the Philippines, a country striving towards democracy but still well behind other places, there was class-based discrimination in migration. Poorer citizens were permitted, even encouraged, to go abroad and work in menial jobs in other countries, such as in the Persian Gulf states. They sent foreign currency back home, and few of these ‘guest workers’ could obtain citizenship in the countries where they worked, however long they stayed there.

Of course rich Filipinos could go where they liked, greasing palms if necessary. With their fixed assets at home, they were unlikely to want to emigrate anyway. But the middle class, younger engineers and academics who were viewed as economic assets to the country, often had great difficulty if they wished to emigrate.

To qualify for its ‘Most Favoured Nation’ status, a status which allows a country to export goods into the United States under favourable terms, the USA has a formal requirement that the country involved allows its citizens to leave if they wish to. This applies, for example, to China — China had to officially accept this condition to retain MFN status.

Here is an instance where MT analysis would correspond to current sentiments. Stopping your people from leaving the country would be a restriction which would be hard to justify, and one unlikely to serve the country well.

Proposition 113E. Artificial restrictions on the movement of systels out of a syston will not advantage the syston itself***

Let My People Go . . . (Again)

Proposition 113E may be acceptable as reasonable, if not especially important. But what

about when we do the usual MT generalization, applying it to *all* systels?

In particular, what about the case of areas of a country which wish to secede, either to set up as an independent country or to join another one? The State of Western Australia, for example.

My own view is that it is very important that a secession of this type be clearly available for use by any section of a syston under reasonable conditions of numbers, referendum and timing, so that, for example, a sub-syston could not be prevented from seceding if, say, 67% of the population of 100,000 or above wished this and maintained the wish for 3 years — secession would automatically occur.

Not only would this be in accord with ideas of fairness and equity, it would also force the main syston government to give proper regard to areas within its boundaries, if it did not wish them to Vote with Their Feet.

Of course this MT ‘Principle of Guaranteed Secession Right’ is already accepted for most systels — you can resign from a club or a business company as you wish, provided you comply with standard ‘exit conditions’ or contract arrangements. This Principle will be a vital factor in the MT design tools applied to such things as political systems in Book II (Chapter 205).

Who Let Him In?

Now to the most controversial aspect of all: immigration controls. This is the aspect of syston management and SIOS expression which arouses the most feeling of all among the general populace. It is certainly not an area where, at least today, any major consensus could be hoped for.

Strangely enough, the actual data and conclusions accumulated on this matter are not generally challenged. Study after study has shown that the longer-term effects of massive immigration into a country are clearly beneficial. Trade and cultural activities all expand, diet becomes more varied, local language and business skills gained with the new migrants are all enhanced.

That’s just some of the first-order improvements. Other studies have shown that once they become well established, migrants also markedly increase exports, as they inevitably seek to maintain links and trade with the places and people they left behind. They quite naturally seek to see their former compatriots gain from aspects of trading or services which they have mastered in their new country, and which they see as useful for their old.

Of course this is entirely what MT would expect. Immigration brings in huge amounts of synenergy, what might be regarded as ‘live’ infocap rather than the ‘dead’ form involved in, say, injecting a lump of money.

A recent article in a South African citrus journal pointed out the great changes which have occurred in fruit marketing in Britain over the last thirty years. The changes during this time were ascribed to the “tremendous immigration to (Britain) from all over the world, and that the British have gone abroad on holidays in enormous numbers for the first time in their history”.

Of course, tourism is very often the precursor to migration. Travel to different places around the world, and inevitably you will come across places which make you think “I would

like to live here : if I could afford it/ when I retire/ if my mum could come too/ if they would let me stay/ ...”.

And sometimes the urge to live elsewhere is actually a very noble, helpful one : “The lives of these people would be so much improved if only I could put in a decent water supply/ when my kids are older, it would be great to spend a couple of years here and fix up all their dreadful teeth/ if only they installed the simple computer system I developed, they could save half their costs and avoid so much misery”.

In MT terms, tourism represents the same sort of valuable synenergy flow as does migration. The bringing-together of different forms of infocap allows them to breed, to give a result superior to the simple sum of the components. Like making a great thick soup, mixing the bits together gives a result nicer than any of the individual foods, and yet the result is not homogeneous, diversity is actually enhanced rather than diminished.

The Downside

If migration is so good, why are there so many restrictions on it? Why can't anyone just move to where they wish and live there?

There are many answers to this question. The MT analysis answer would be that these restrictions are a normal expression of SIOS, the excessive fear and dislike of systels who are different. And there is also the point that such restrictions continue to exist, because they can actually be enforced to some degree or other.

The point was made right back in Propositions 103C and 103D that what we might call the ‘systonization of society’ has accelerated enormously in recent history. Two hundred years ago, if you wanted to live on a different part of the globe, and could afford to get there, you just went. You might encounter many difficulties — hostile tribes in the wilder parts, vicious diseases or religious exclusion in more civilized areas — but your difficulties were generally not bureaucratic ones.

Nowadays the drums are a lot tighter than they were. Consider the following article.

Illegal migrants face blitz

CANBERRA: The Federal Government has put illegal immigrants on notice to “pack their bags” or face tougher penalties.

Immigration Minister Gerry Hand said yesterday that many of the estimated 90,000 illegal immigrants in Australia had full or part-time jobs and the Government would deal severely with employers who knowingly hired them.

“We are looking at things like how stiff the penalties are for employers who employ illegals, and I suggest they are probably not stiff enough, so I am looking

By STEPHEN BEVIS

at perhaps toughening up there,” Mr Hand said.

“We will help them (illegals) pack, they're not needed here.”

Mr Hand was launching a report on Australia's population trends which said that the estimated number of illegal immigrants rose by 50 per cent in the year to last April.

The report, Australia's Population Trends and Prospects, said 2896 illegals were found by immigration officials in 1989-90 and 1029 were taken into custody,

with more than half eventually deported.

The Government had since trebled the number of compliance officers to find and expel illegal immigrants, Mr Hand said.

Between November and late January, 127 illegal immigrants were apprehended in WA.

The report showed that although Australia's growth rate fell last year to 1.5 per cent from 1.78 per cent the year before — taking the population in June to an estimated 17,086,200 — it had the highest growth rate of any Western country.



Mr Hand

Where the Gardener Went

My personal feeling is that the article in Fig. 113.1 was both very saddening, and a shocking reflection of the unpleasant face that Australia is currently presenting to the world. All the cruel and unfair practices which Australia was notorious for in the bad old days of the White Australia Policy, and which the officials assure us are long gone, are once again with us in force, in a more sophisticated and suave form.

Earlier this year I noticed that I hadn't seen the gardener around for some time at the place where I work. He was a nice, hard-working fellow with an English accent. When I asked around, I was told that two large gentlemen from the Immigration Police had removed him — apparently he had overstayed his visitor's visa.

Apparently he had been doing all the right things, like putting in his income tax return, and so on. In fact he had actually been tracked down through his tax return — a disquieting thought for those who believe in the privacy of such returns.

This was a quiet event which would not arouse any public comment. A far more public event, unresolved for many months, is the case of a group of 86 people who, in 1991, sailed from China to Australia in a small boat. They came to land at a remote spot on the Kimberley coast of WA. After weeks of trekking through the bush, clubbing crocodiles and snakes to death for food, the first of the party reached a remote Kimberley cattle station.

Then followed days of air searches for the remainder of the scattered party, some of whom were injured — the last two found were near death. The nation heaved a sigh of relief when the last were found, still alive.

At the time of writing, all these Chinese are still locked in a detention camp in the Northwest, more than a year after they got here. This is in spite of many impassioned pleas from church and social groups, and undertakings to support these people if released to the local community. In spite of numerous legal battles with Mr Hand's Ministry, with one court action stymied by Mr Hand enacting a change in the law to prevent it.

Look again at the news article, and the numbers involved. Mr Hand proudly notes that he has trebled the number of compliance officers to find and expel illegal migrants. Around 600 people, around one-third of a hundredth of one percent of the population, have been ejected.

Is the huge expense of such actions, and the devastating fall in Australia's reputation overseas, worth it to maintain Mr Hand's Will To Order? I think not. I think Mr Hand has looked at the gardener's belly, and cried “Look! He has No Star!”.

This Syston IS an Island

The only nation which has a whole continent to itself, Australia prides itself on its secure boundaries. Of course, in a parallel to Proposition 113D, no nation-syston has completely impermeable boundaries, nor would MT suggest that it would be desirable if it were.

In fact, from the MT viewpoint the tightness of our boundaries is actually a disadvantage in enabling such a tight control on systel flow. Nowhere else is there the possibility of such rigid control, nor the will to enforce it.

Look now at the United States. From once being a land calling out “Give us your Poor ...”,

Fig. 113.1. (West Australian, 1991 March 2)

the USA has since tightened up considerably, although it is still the Mecca of prospective migrants worldwide — we will look at this more in Chapter 115. And with far more open land and sea boundaries, the USA has taken in not thousands, but millions of ‘illegal’ migrants. It may not have done this enthusiastically, but its level of compassion and realism has been far ahead of that of Australia.

Of course, this has resulted in problems. More than half the population of Miami, in Florida, were born in Cuba. More than 40 percent of the population do not even speak English, only Spanish.

In Britain during the 1950s there was a huge influx of immigrants, particularly from the West Indies, India, and Pakistan. Naturally enough these various ethnic groups tended to settle in particular parts, and in some areas they came to form the majority of the population.

This did lead to problems, not overt discrimination matters necessarily, but strategic problems. For example, in some London suburbs close to where I lived, two-thirds of the young children entering primary school were recent migrants from India. Of course most adult Indians can speak English, but these were children who had learnt to speak an Indian language from their parents at home.

Now these children had to learn to read, to read English, a language they did not even know. It could be an immense problem. Of course the authorities could bring resources to bear on the problem, say by taking on Indian-speaking teachers to bring the children’s English up to speed, and they did what they could. But what were the lost one-third, the local English children, to do in the same class at the time?

There were also moral dilemmas. When I was about to migrate to Australia in 1964, the house I had been buying was in a suburb in which Indian migrants had started to buy and live. There were none in my street. There was the normal anti-migrant bias in the area, and my neighbour pleaded with me not to sell my house to an Indian — it would lower house values, and he would have to put up with the results of cramming perhaps three Indian families into the house, while I was well clear.

I did my best to satisfy him. The problem was, no English person would consider buying a house in that suburb then, because it was considered in the process of being ‘taken over by the Indians’. Instead, they would look in another suburb — that was free choice. In the end, the house went to an Indian buyer — there were no others in the market, and I needed to sell.

All Things Pass

But all things pass. A generation on, most of the population speak the same London accent, only old Grannie in the back room reminding them of the difficulties of those from another culture, another time and place. Those poor children trying to learn to read a language they could not speak are now running banks and businesses, or treating patients of all the skin colours going. When the old Indian fellow with rheumatism problems is brought in, the local doctor feels grateful he can grope back into his ethnic past to find the words to console him with.

At home, his English-born wife has been shopping and bought sweet potatoes at the local supermarket to eat with the evening meal. His sons are on the way home from the local

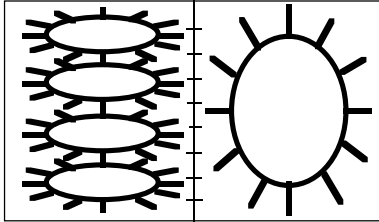
basketball match, they have bought some curry puffs from the local fish-and-chip shop, and are gazing uneasily at some dark old gentleman who is asking them directions in a language they know not one word of.

And so the last Proposition of this chapter:

Proposition 113F. A system will be advantaged by the highest possible immigration rate it can cope with***

Think about it, Mr Hand.

Chapter 114



WHAT'S GOOD FOR GENERAL MOTORS — Matrix Additivity and Conservation

What's Good for General Motors

Is Good for the U-S-A.

— Charles E Wilson, to Congressional Committee, 1952

Counting on Our Fingers

No detailed understanding of the components of a complex system seems possible unless numbers or quantities can be applied to give an idea of the scale of its different parts. We need to be able to count the things we are dealing with.

In the human world, our normal numbering system is based on the number ten. We are still counting on our fingers — in an alien world where the inhabitants had six fingers on each of two hands, their base number would probably be twelve. Even our word for the symbols involved, the digits, actually means fingers.

If we now try to apply conventional counting and measurement procedures to the sort of topics we have looked at in Matrix Thinking, we must do so with caution. There are a number of reasons for this.

First, some of the assumptions which are imbedded in the ordinary sort of counting we do in daily life may not apply in the Matrix area. In chapter 105, I suggested (Proposition 105I) that matrix quantities may not be subject to the same laws as linear qualities. When we move, as now, to try and handle matrix *quantities*, it would be wise to check whether our ordinary counting procedures still apply. Often they will not.

It Just Doesn't Add Up

Adding ordinary numbers is 'commutative'. If we have 3 bananas and add 2 bananas, we end up with 5 bananas. If we start with 2 and add 3, going in the reverse order, the answer is the same.

This seems absolutely simple and obvious. That it is not so, is shown by dividing instead of adding. If we divide 3 by 2, we get a different result than we would if we divided 2 by 3.

And of course the additive principle assumes that the items added are identical in nature. Often, in a real as opposed to an abstract world, they are not. In a New Guinea market, the 5 bananas you buy may be intended only for cooking, and quite unsuitable to add towards the fruit salad you want to make.

Suppose you want to see how many job vacancies there are in Australia. You add together the figures for the different states and territories, 100,000 in New South Wales, 20,000 in Western Australia, and end up with a total of, say, 400,000. Is that an accurate procedure?

The answer is no. Some of the vacancies will be counted more than once, they are the same vacancy, 'offering itself' in more than one state at the same time. Other will be very localized, existing only in a very restricted locality, say a distant mine in outback WA. These will be of no relevance to someone seeking work in Sydney. And obviously each vacancy will have its own requirements for filling, the unemployed accountant just cannot take up the plumbing vacancy and go from there.

The deduction from this is that we cannot just add together matrix quantities and necessarily expect the simple total to make any sort of sense.

Proposition 114A.** *Matrix quantities are not necessarily additive*

Moving Across Systems

The second cautionary aspect concerns adding up things which lie in different areas. Simple mathematical addition embraces a second assumption: a single, continuous range along which numbers are added. If we add 26 and 3 and get 29, we automatically assume that if we add 1026 and 3 we will get 1029 — the numbers are all living on the same linear scale, and working at a point further along the scale should only displace the answer, not alter it.

In the real world, things are not so simple. If a man is walking along at 5 kilometres per hour in a town, roughly how many houses will he pass in a minute? The answer obviously depends on the building pattern, but with a typical Australian street frontage of 10m, with houses both sides, the answer is about 17.

All right, but suppose the surface the man was walking on was the corridor of a train moving at 60 km/h? Obviously the number of houses passed would be far more. And even on the same house spacings, the detailed number would depend on whether he was walking in the direction the train was going or the opposite way.

That is not an example of a second facet of matrix quantities, it is only a parallel. What that facet actually involves is the realization that matrix quantities are not necessarily additive across or over systems.

Proposition 114B.** *Matrix quantities are not necessarily additive across or over systems*

Take, as another parallel, the population of a shire or county. A local authority may

conceivably have a record of how many people live in each of its rateable properties — it may operate under a poll tax system, for example. If it adds all those numbers together, it will get a total which represents the number of people living in the shire.

Now that is a procedure which is obviously not watertight — it omits people living in non-rateable properties, for example. But that is a Proposition 114A limitation.

The Proposition 114B limitation comes in when you try to calculate the population of the State, and do this by adding together the populations of its constituent shires. Here, even if the shire counting method was exact, the State count would not be, because some of the population will have houses in more than shire — perhaps a holiday home, or a farm property managed by someone not living in the farmhouse.

When you move into the more subtle areas of syston makeup, the limitation becomes more apparent. Calculating the number of sports club supporters in a State by adding up the individual club numbers would obviously be useless — many of those involved will support more than one club, cricket *and* football, for example.

What's Sauce for the Goose: The Goose's View

Finally, the matter raised in the quotation at the head of this chapter. I have put this quotation in, not because I believe it is true, but because I think it is a readily-assumed principle which is often completely false. Here is my view:

Proposition 114C. Things which advantage a particular syston will usually disadvantage a wider syston which contains it***

What this Proposition is saying, in effect, is “What's good for General Motors is *bad* for the USA”. At first sight this assertion seems most unlikely to be valid. But let us apply a little linear thinking to it, and then move on to MT analysis.

On the standard view, many of the things which go to make up society — jobs, money, resources, and the like — are assumed to be ‘conserved’. Here, ‘conserved’ is used in the scientific sense, that is, the total amount of a given resource is assumed to remain the same, although it may be changed in form.

If we have a resource of 100 million tonnes of coal in the ground at some place, it will stay there unless we use it. If we use it up at a rate of 1 million tonnes a year, by changing it into heat or some or other form of energy, it will last 100 years. All very straightforward.

If the Government lets in 100,000 migrants, that means there will be 100,000 less jobs for Australians. If overtime was banned, that would create huge numbers of new jobs for those at present unemployed. If the Government didn't spend a billion dollars on armaments, it could put the money into the health or education systems.

These last things are not so straightforward. Nevertheless, they are the sort of assumptions which are at the base of much linear thinking.

Of course such assumptions also underlie one of the fundamental feelings in society — the idea of equity, of Fair Shares for All. This is an aspect of what, in Chapter 109, I referred to as ‘tight-banding’. It applies in both directions, down and up.

The Tall Green-Eyed Poppy

Australia is notorious for what is called the ‘Tall-Poppy Syndrome’, the urge to drag down those who make a lot of money or become very prominent in some area. It is a sort of envy. When it is an expression from a complex syston, rather than an individual — and usually there will be syston equivalents to all individual urges — we can call it syston-envy, in MT terms.

Envy at any level is usually reckoned as Bad. Particular instances in the past have been justified on the grounds of another urge, usually reckoned as Good — the idea that things should be shared out fairly, that is evenly.

There is nothing in the Matrix Thinking approach to support this view. In fact, MT would regard it, like any other instance of tight-banding, as leading to a reduction of infocap, normally associated with a disadvantage to wider society.

Proposition 114D**. A syston is not advantaged by attempting to share its resources equally among its systels

How about the other direction, that is, how about somebody who is very rich sharing out his wealth with lots of others? The Proposition just stated applies equally here, too. But, how about the very poor, doesn't this principle imply that it would be a mistake to top up their resources and bring them closer to the average?

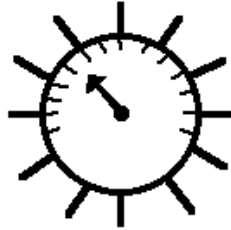
It is not the intention of Proposition 114D to suggest that those who have very little should not be helped to improve their lot. But, it must be admitted that we have arrived at a sticking point in our MT analysis. We will not be able to achieve more clarification of the situation until we arrive at the concept of Threshold Levels, as in Chapter 116 and beyond.

Readers will have noted the relation between the last two Propositions and Proposition 113A, which suggested that a syston is disadvantaged by discrimination between its systels. At first glance, the various principles suggested might seem in conflict. The conflict disappears, however, when the clear distinction is made between discrimination, applying to inequality of opportunity or treatment, and sharing-out, applying basically to physical possessions.

But this chapter was to look at the nature of matrix quantities. Before we end it, and go on to look at attempting to measure these quantities in the next chapter, we should formally put forward a basic facet of matrix quantities, as a reminder of one aspect of Proposition 106D.

Proposition 114E. Matrix quantities are not conserved***

Chapter 115



STOP THE WORLD, I WANT TO CHANGE SEATS — Synenergy and Infocap Measuring

“In everything there lieth measure”

— Geoffrey Chaucer (1375)

Top Down or Bottom Up?

In Chapter 114 we looked at the matter of adding up matrix quantities, and I suggested that the ordinary rules of addition did not apply. In thus throwing away a universally-applied technique, I perhaps have an obligation to submit an alternative.

Adding together the bits — what might be called the Accounting Technique — is one which operates from the bottom up. Add together all the little bits at the bottom, say all the people in a city, and you end up with a ‘top’ figure, the municipal population.

There is another way. It avoids deficiencies in accounting-technique formulas by dispensing with them. Instead, quite a different technique is used, one which operates from the top down.

As an example, it would be possible to measure a city population by going to the local stadium at the time of the annual North-of-the-River v. South-of-the-River football match, which everyone attends, and estimating how full it is. If the stadium holds 100,000 and it is 75% full, the city population is 75,000.

Now obviously that approach is very simplified. It could be made more exact by estimating the fraction of population who did not actually attend, say by local water consumption from flushing toilets, and the number actually at the match could be estimated more precisely, say from peak noise levels, body heat emitted from the whole stadium, or change in light absorption determined from a satellite photo. And just as obviously, any such approach cannot be exact.

Top-down methods of measurement are intrinsically open to the criticism that they are inexact. If the quantity being measured is not a matrix one, it may well be that an ‘accounting’

Stop the World, I Want To Change Seats — Synenergy and Infocap Measuring 111

technique is available which does appear exact. Even here, though, it is possible to confuse an exact method of counting with an exact method of measuring — there may be a discrepancy between what is actually counted and what is intended to be measured.

For the football match, a turnstile count will be one which is close to exact. But remember, it was the *city* population we were trying to measure. Even if the quantity we are measuring is an additive one, it does not follow that methods are available which truly perform the desired summation accurately.

For a non-additive quantity, for example matrix quantities like infocap, we can only use an alternative approach. Let us now look for one.

The Synenergy Meter

Back in Chapter 102 we sketched a picture of a country represented as a black box, with a dial on the front marked ‘Infocap’. That concept was a purely mental one. Let us now try to devise a real technique, one capable of measuring how much synenergy a country contains.

In previous chapters we have referred to synenergy as based on infocap in motion, or as infocap ‘quickenened’ by addition of some other factor in syston makeup. Infocap itself can be regarded as the substance which makes up the ‘worth’ of a syston. One aspect of infocap is money.

Of course procedures already exist to estimate the money ranking of a country, such as the Gross National Product per capita mentioned in Chapter 109. Now GNP is worked out on additive, ‘accounting’ principles — a typical example of bottom-up methods. Note also that, in common with ‘bottom-up’ methods, the result is measured in familiar units — say in US dollars per person per year.

Matrix Thinking by definition looks at a situation from the outside, and to measure a matrix quantity we necessarily need to work top-down, from the broadest aspect. Look now at the advert in Figure 115.1.

This advert appeared in, and was repeated in, an Australian newspaper in 1991. It is an interesting item in itself, with its reference to ‘Green Card Lotteries’, and the offer of advice on filling out forms with ‘winning answers’, getting U.S. citizenship, and avoiding deportation.

It is also interesting in the ordering format offered, with the facility for making a free international telephone call and charging the book to a credit card. This advert was the first reference

U.S. IMMIGRATION MADE EASY
The Insiders' Guide
Secrets of Successful Immigration
Including Never Before Available
Opportunities from the
NEW IMMIGRATION ACT of 1990

*** HIGHLY RECOMMENDED ***
"Highly recommended ... Instructive and explanatory"
UNITED STATES DEPARTMENT OF STATE
"Thoughtfully organized... a vast amount of useful information" LIBRARY JOURNAL
"Definitely ranks among the best" UNIVERSITY OF CALIFORNIA
"A step-by-step, easy-to-use manual" SOCIETY OF HUMAN RESOURCES MGT.
"A new option ... Saves \$500 to \$8,000 in legal fees" ASIAN WEEK

*** YOU CAN WIN THE IMMIGRATION GAME *
with this Easy, Step by Step System—Find out how to:**

- ★ Qualify for a Green Card, Even if You Never Did Before
- ★ Take Advantage of Green Card "Lotteries"
- ★ Get All Types of Green Cards & Visas for Relatives, Professionals, Employees, Students, Visitors, Refugees and More...
- ★ Fill Out Forms With Winning Answers, Sample Forms Included
- ★ Avoid Deportation
- ★ Get U.S. Citizenship

Get Top Professional Help Without Paying a Fortune
The Insiders' Guide is Written in Language You Can Understand
by Recognized Expert Immigration Attorneys Marilla S. Siegel and Laurence A. Gantler

ORDER NOW BY PHONE, MAIL OR FAX
In Australia Overseas Freephone **0014-800-125-120**
International Telephone: 602-749-3415 FAX: 602-749-0877

SPECIAL
REGULAR PRICE \$79
Now Only **\$68**
Plus \$28 Annual

Sheridan Chandler Co., 7759 E. Broadway, Suite 410-21, Tucson, AZ 85710, U.S.A.
Please ship my order for _____ copies of U.S. Immigration Made Easy @ \$68 U.S. each plus \$28 Annual
 Charge my CVISA Mastercard American Express Card No. _____ Exp. Date _____
 Check Payable thru U.S. Bank - Total Enclosed \$ _____ Signature _____
Name _____
Address _____
Country _____ Telephone _____

Fig. 115.1. Advertisement from the 'Weekend Australian', 1991 April 6-7

I had seen in Australia to the existence of an 0014 Overseas Freephone service; Australia's established telephone utility, Telstra, does not mention it, although they do describe the free-to-caller internal 1800 service.

But the real impact and relevance of this advert is that it should appear at all. For it to be worth someone's while to pay for such an ad, and repeat it later, it can be assumed that a response was expected and obtained. The existence of the ad implies that readers in Australia will be interested in migrating to the USA.

The Grass is Greener . . .

The grass is always greener on the other side of the fence, and there will always be people who have a desire to live somewhere else. What we need to do in the current aim of constructing a Synenergy Meter is to *quantify* the urges involved in the desire to move. Consider the following news item.

Australian life polls well

NEW YORK: A 16-nation poll found that Australia was the second most preferred alternative country to live.

Canadian pollsters Angus Reid asked 4510 people in 80 cities where they would choose to live if they were to leave their homelands today.

Australia (22 per cent) ranked second behind the US (27 per cent).

Japanese would be the most eager to migrate to Australia — 56 per cent of Japanese people polled said, if they were given the choice, they would move to Australia. South Koreans and

Britons (34 per cent) rank second in their desire to move to Australia.

If Australians were to move away from home, the most popular relocation spot would be Britain, with 30 per cent wanting to live there.

The US (22 per cent), Canada (22 per cent) and New Zealand (20 per cent) were the next most popular relocation sites for Australians.

The poll was conducted in the US, Canada, Mexico, France, Britain, Germany, Spain, Italy, Russia, Singapore, Hong Kong, Taiwan, South Korea, Japan, India and Australia.

Fig. 115.2. Item from the 'West Australian', 1992 May 23

Now of course these polls will not necessarily reflect migration movements which are in progress or may occur in the future. When it comes down to the actual process (or trial) of migrating, and all the hidden bureaucratic and discrimination rebuffs are met with head-on, a rosy view of a particular migration target might quickly vanish.

But that does not matter in the present case. The basis for the proposed Synenergy Meter is the idea that the perceived attractiveness of a particular country as a migration target does give a measure of some attribute that country possesses, and that attribute is the same thing as what has been called the 'synenergy' of the country in this book.

Proposition 115A.** *The synenergy of a system is reflected in the urges of systems outside the system to enter it*

We should look carefully at what this suggestion really means. It is not just saying that a country with a lot of synenergy will be likely to attract visitors and migrants, although this is implicit. What it is saying, is that the 'attractiveness' of a country as a place to visit or live in

reflects the basic quantity of a substance that country possesses, a quantity which we have called synenergy. The synenergy content is fundamental, measuring its attractiveness accurately is a way to measure its synenergy.

In fact at present we cannot make such a measurement very accurately. But we can make progress towards this.

The Message in the Rocks

In the early development of the modern science of geology, ways of measuring the *absolute* ages (ages in years) of different rock strata had not been worked out, but it was possible to work out their *relative* ages.

For example, in many parts of the world it is possible to find good exposures of long successions of rock strata. Within these successions, there may be layer after layer of rock, all essentially horizontal, and showing no sign of any dramatic event such as overturning in a mountain-building event. With drill-holes, some of these undisturbed rock sequences may be traced to very considerable depths, measured in kilometres.

Of course it is only logical that in an undisturbed sequence of rock deposition, the younger rocks will be on top of the older ones. Moreover, because all forms of life are continually evolving, fossils found in the different strata identify their relative ages and connection with similar strata elsewhere in the world. And of course some creatures had a long geological record, some short ones, and with a given assembly of different fossils from the same stratum it is possible to pin down the relative ages of the rocks involved quite well.

Sometimes the boundaries are remarkably precise. Once, in my youth, I climbed up one of the cliffs at the side of the Severn Gorge in England, to view the Triassic-Jurassic boundary, the division between two of the 16 major age divisions into which the Earth's rocks are usually classed.

Reaching almost to the top, with my arm over the edge, I lost my footing and fell. As I flashed by the Tea-Green Marls just below the classic boundary, and fell through millions of years of deposition in a few seconds, I realized that my geological hammer was still at the top.

Luckily I wasn't badly hurt. I climbed up the face again, reached the top, and fell again — but this time my hammer came down with me. And I had a piece of the Rhaetic Unconformity, a slice of history around 198 million years old, and only a centimetre or so thick.

A Crude Beginning

When we come now to our synenergy measurement, we are in a similar position to that of the early geologists. Using data such as that mentioned in Figure 115.2, we can place countries on a scale of migration attractiveness, and call their rating on the scale their synenergy content. And we can get not only a relative rating — Australia above Canada, say — but also a quantitative measure, perhaps with Australia 5 notches above Canada but 10 notches below the USA.

Note, however, that we have no absolute units to state the synenergy content in, we cannot say that Australia has a content of 198 million megasynergys or some such. For that we will

need to develop analogues of the potassium-argon dating of rocks. Note also that the synergy measuring technique is a top-down one, we don't sum up any smaller bits, only sample from a large continuum.

More importantly, note that Synergy Rating has no necessary connection with conventional measures of a country's worth, such as GNP, Gross National Product. GNP does attempt to measure assets in monetary terms, and money is one form of infocap, true enough. The point is that synergy embraces far, far more than this one money component.

And so, while the United States may be at the top of both the GNP and Synergy scales, there is no general relationship. Japan, Switzerland, the Scandinavian countries — these all have high GNP values, but is there a big rush to migrate there? I would be surprised if they were even mentioned as migration targets in a Fig. 115.2 poll. While Brazil or Indonesia — certainly not rich countries in conventional terms — could well be places where people might want to 'make a fresh commitment'.

Small Towns in Nebraska

We have looked at the attractiveness of countries as migration targets, and derived a technique for measuring their synergy. With systons of other sizes or natures, we could look at other measurement techniques which might be applicable. To measure the ages of comparatively young fossils, we might need to switch from potassium-argon to carbon dating.

In a recent article in *Research Nebraska* [Miller, 1991], a study is reported of changes in the attractiveness of variously-sized Nebraska towns as retailing centres. Economist Bruce Johnson worked out a technique called 'pull factor analysis' to reflect these changes.

Pull factor is the 'per capita retail sales of a county or town divided by the state per capita retail sales for the same period'. What this means is, that if a retail centre has a pull factor greater than 1.00, it is holding its share of retail trade, while if it has a factor below 1.00, it is losing out to other centres.

Johnson found that the smallest centres were the greatest sufferers. In the period 1970 to 1988, the average pull factor for towns under 500 population fell from 1.08 to 0.60. For towns in the 500 to 1,000 population range, the factor fell, on average, from 1.02 to 0.74. Towns with between 1,000 and 10,000 population also declined somewhat, while those with more than 20,000 inhabitants were the winners.

Such figures may be saddening, but they are not surprising. The 'Magnet of the City', the 'Depopulation of the Countryside', these are common features of modern life all over the world. In MT terms, they are normal reflections of the tendency of infocap to aggregate and build up synergy focussing and breeding nodes.

What this last study provides is another instance of a way of measuring synergy content. It may not be exact, and it is still only relative, but it is a start. Let us now leave this topic and move to a completely different area — the study of syston governments, the overt managers of syston operations.

Chapter 116



IT JUST DOESN'T FOLLOW — Syston Government

"A new idea has come to dominate thought about government — the idea that the resources of the nation can be made to produce a far higher standard of living for the masses if only government is intelligent and energetic in giving the right directions to economic life"

— Franklin D. Roosevelt

Logic and Government

A friend who read my previous book, *Nuteariat*, admitted he was impressed by it. But, he commented, it did contain a number of non-sequiturs.

He was right. And the reason why that book contained numerous suggestions which did not follow from what had gone previously was that the book was the product of what is here called Matrix Thinking.

Following a line of reasoning is, by definition, linear thinking. The present book is an attempt to bring out a different approach, whereby results are drawn out from the whole Matrix using any methods at all. These results can then be *tested* for applicability ('truth'?) by reasoning and logic, including completely linear logic, and compared with data from the real world to see how well it matches.

In this chapter we will plunge deep inside the Syston, and start to examine some of its specific elements — its vital organs, as it were. The first of these is an organ which we will call its Government. For a country-syston like Australia, its Syston Government will coincide in many, but not all, respects with Australia's Federal Government in Canberra.

In other systons, Government systels may have other names. In the human individual, this element is usually called the Mind or the Brain. In a business firm, the element may reside mostly in the Board of Directors, and in a voluntary organization, it may be represented in an Executive Committee.

Where the syston occupies a specific piece of land, as in a local authority, state, country,

or empire, the term Government is normally used, and that is why I have used it in this sense here, as a familiar term which is easily grasped. But, as always, the sense is extended and generalized, to cover elements with a particular function which are active in systons of every sort.

The Power of Symbols

Many people find it easier to accept a concept if it can be represented by a symbol. In this book, I will use an inverted triangle with two horizontal lines across it to represent a Government systel. And to start off with, I will place this symbol at the centre of the whole syston (Figure 116.1).

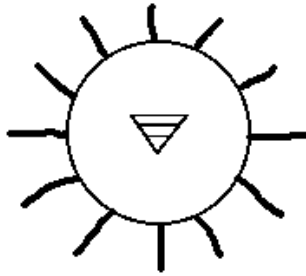


Fig. 116.1. A Government-systel symbol in its syston

Is the Government a Syston Itself?

An interesting question immediately arises as to whether a Government is itself a syston. Everyone will be familiar with times when a country's government seems to be careering along some independent path, perhaps obsessed with party politics, and seemingly oblivious to its alleged task of steering the country for its people. A measure of autonomy and self-continuity is, of course, a basic characteristic of a syston.

When looked at closely, however, the answer to this question seems to be "No". Defined as one of the vital components of a syston, a government cannot logically be a whole syston of itself, in its function as a government. What is perhaps a better description of the situation is to say that a government systel is in practice run by one or more systons, which change from time to time.

It is rather like the status of an incorporated company in business. Such a company has the legal status of a person, a person who can buy and sell goods and property, represent itself in court in suing and taking out writs, and so on. This 'person' has its own accepted signature (the 'common seal' of the company), it can die (be liquidated), and new ones can appear (be formed and registered).

In practice, however, no incorporated company, no corporate person, has enough consciousness to be able to sign its own cheques. This may not always be the case. But for the present, official corporate documents must still be signed and stamped by individual directors or officers of the company, acting under prescribed sets of rules as agents of the

company-government systel.

Similarly, in a national or state government, political parties usually act as the enabling systons which actually run the government on a day-to-day basis, and of course these parties are themselves often corporate bodies which have a legal existence of their own.

A History of Governing

The situation just described for governments is typical of many countries throughout the world at the present day. But it is clearly by no means universal.

As we look round the world, we can see that the Absolute Monarch has more or less disappeared from the scene. The Supreme Dictator is still with us — as currently in Iraq — he (it always is 'he') is perhaps a less developed absolute monarch, without the respectability of sanction by usage and family inheritance. And we still have, if a diminishing number, some Presidents-for-Life.

Above this level are governments where some non-individual syston is holding on to power. These include governments controlled by the military, as in Burma, race- and sex-discriminatory governments as in parts of Africa and the Middle East, and one-party governments, as in China and, effectively, Indonesia.

Above these are the newer and more shaky democracies, as in the emerging former Soviet republics, through firmer-based but perhaps still vulnerable democracies such as Ecuador, right up to older Westminster-style governments as in Britain and Australia.

Are these the peak of current development? No, they are not. There is a further, large, familiar form of government which is a complete step further on. It is that of the United States.

America, America

People who live in one of the Western democracies outside the United States just do not realise how fundamentally different the system of government is there compared to that in their own country. And in the US, the inhabitants, while proud of their system, often do not realize the fundamental differences either.

The US government system came into existence in a unique way. It can be said that it was 'scientifically' designed. The story is an interesting one, and to appreciate its force and implications, it is necessary first to know a bit about the 'spirit of the times' in the circumstances of its creation.

Nowadays we expect the laws and constitutions of a country to be put together by politicians and legal experts. Benjamin Franklin, often regarded as the Father of the US Constitution, did indeed act as a prominent figure in the new country's affairs, but of the different reasons for his fame during his own lifetime, the major one was his reputation as a scientist.

Franklin's standing in other fields has perhaps tended to obscure this fact. Nevertheless, in J.G. Crowther's *Famous American Men of Science* [1944], Franklin's activities take up more of this review than those of any other scientist. Crowther states quite unequivocally that "Franklin was the most important scientist of the eighteenth century". In reviewing the whole scope of Franklin's work, Crowther says "he had the most advanced mind of the eighteenth

century”.

And yet if there is an outstanding feature of Franklin’s personality, it is its breadth, with fingers in every pie. In contrast with the sober and socially inept bachelor Isaac Newton, who spent the greater part of his life running the Royal Mint in London, Franklin was a randy, mischievous person who combined great intellect with a love and enjoyment of life. In Proposition 105L, I have suggested that a genius in one area may have marked lacks in others — I would have to admit that Franklin would be the exception to this. Perhaps he demonstrates Proposition 105J better!

Crowther traces how the attitudes of Franklin and his colleagues in designing the US Constitution were influenced by the basic contributions to science made in the previous century by Isaac Newton. Newton was, of course, a giant of the scientific world, with his basic propositions on gravity and light, and his development of the mathematical calculus. But from these very major advances came another, more incidental one.

That advance was the realization that rules could be logically constructed for the organization and betterment of a country, as in the form of a constitution. This may seem very obvious, but in actual fact most changes to a country’s jurisdiction are reactive, after the event. Newton had shown how an understanding of the basics of the physical universe (rather than the accumulation of rules-of-thumb) enabled a number of major practical advances to be designed and realized. It was a logical extension of this concept for Franklin and his colleagues to try and design a constitution ‘from the ground up’.

This approach was in accord with the ‘spirit of the times’, not a Franklin innovation, and does demonstrate that the current sharp division between, say, science and politics, did not exist then. Voltaire was one of the first to popularise Newton’s ideas; these ideas also fascinated dominant American political thinkers, such as John Adams. Crowther states that the “introduction into political philosophy of the attitudes of Newtonian scientific thought was due especially to John Locke [the philosopher]. The natural rights philosophy of the Declaration of Independence was acquired by Thomas Jefferson largely from Locke”.

So an important point about the way the US Constitution was created is, that the design approach used was essentially pro-active rather than re-active. Once a given aim had been worked out, the attempt could be made to devise laws which would work towards achieving this aim. Instead of looking at the world as it existed, and forming laws to control abuses and maintain the operation of existing organizations, this technique allowed a different sort of world to be visualized, and steps taken to implement societal mechanisms to move towards such an ‘improved’ state.

The reader will have realized that what has just been discussed is, in fact, the nucleus of Matrix Thinking. The concept of *pro-active* laws has characterized United States society ever since Franklin’s time; a modern example is that of the de-regulation of the air travel industry. In this, the US-syston concluded that such deregulation would be of benefit, and put in place laws to accomplish it. In contrast, other countries acted *reactively*, to bring in similar mechanisms, in order to try and keep up with the US. Another example can be found in anti-monopoly legislation.

Echoes of this section will appear in many places later in this book. But before passing on

to a deeper probe into mechanisms of government, we can dwell briefly on a major result of Franklin’s thinking as it affects the US today.

A Law to Limit Law

In the introduction to a modern reprint of John Taylor’s 1818 agricultural classic *Arator* [Taylor, 1977], editor M.E. Bradford describes how Taylor classed the federal Constitution as political law (as opposed to local, civil, and other law, which was “designed to restrain the citizen in his own community”). Instead, “the Constitution was basically a law to restrict the conduct of legislators and other public servants — a law to limit law — and therefore a means of preventing ... a recurrence of those abuses that had brought Americans to revolution in the first place”.

The idea of limitations on what laws can be based, is one which does not figure in most parliamentary democracies outside the US. Another fundamental difference in the US is the ‘separation of powers’, where the President is the head of the Executive branch of government, responsible for all the government agencies actually implementing the laws, and is quite separate from the Legislature, which sets up the laws. In a country such as Australia, the Prime Minister oversees both the operation of government and the adoption and amendment of laws in the country’s Parliament.

In Australia, government departments are run by Ministers, elected members of the ruling political party sitting in Parliament by virtue of their election. In the US, the equivalent to government departments are usually called Bureaus or Offices, and their heads, usually called Secretaries, are appointed directly by the President. The President is elected quite separately from the members of the Legislature, so both the President and the Secretaries need not be members of the majority political party in the Legislature, and often are not.

Another fundamental limitation in the US is that the elected President may not serve more than two terms — eight years — consecutively. After no more than eight years there must be a new President, and he or she will inevitably make their own choices of Secretaries. This obviously can result in changes in the Bureaus, and in examination of what the previous head did — a limitation on entrenchment.

It is worthwhile for anyone living in a parliamentary democracy like Australia to look at news reports of the activities of this or that government minister, and of this or that instance of blunder or corruption in government, and ask whether such could occur in a separation-of-powers democracy. Often it could not — just try it out a few times with real news items.

The American political system is admittedly most complex, with the three branches of government (the third being the Courts) not being completely separate, but instead operating at arm’s length from each other, with well-defined and purposely-designed checks and limitations on their interaction. The US electoral system is also very complicated. From the MT viewpoint, this compexity is an asset — it implies a high infocap content, which itself leads to a more stable and resilient syston.

All these matters will figure later when we come to Chapter 205, on Politics and Nationality. Now we will turn aside from the particular instance of the US government and its differences from others, and tackle the basic requirements of governments generally.

Four Fundamental Government Axioms

According to the Macquarie Dictionary, an axiom is “a proposition which is assumed without proof for the sake of studying the consequences that follow from it”. In dealing with the topic of syston governments, I will present four axioms for their operation, axioms extracted from the Matrix without prior reasoning quoted. We can then, in the spirit of axioms, examine the consequences of their application and try and judge their validity in the real world.

Axiom One. *The only valid Tier One activities of Government are those designed to directly maintain threshold levels of health and safety within the syston.*

Axiom Two. *The only valid Tier Two activities of Government are those designed to directly raise the level of infocap within the syston.*

Axiom Three. *The only valid Tier Three activities of Government involve the minimum taxing of syston synenergy needed to carry out Tier One and Tier Two activities.*

Axiom Four. *The synenergy taxation needed is at a minimum where government activities are moved into the narrowest possible syston government.*

In what follows in this book, I will often present the tests of these axioms for given scenarios in the form of questions — for example, I will say, now we can ‘Ask Question One’. The Four Questions are just the four axioms just given, presented in the form of questions:-

Question One. *Is the activity designed to directly achieve a threshold level of health or safety in the syston?*

Question Two. *Is the activity designed to directly raise the level of infocap in the syston?*

Question Three. *Is the activity a minimum taxing of syston synenergy needed to carry out Tier One or Tier Two activities by the syston?*

Question Four. *Is the activity being organized in the narrowest possible syston government?*

In practice, the technique for analysing or designing a particular scenario will be, first to Ask Question One. If the answer is ‘Yes’, it defines the activity as a Tier One activity, and if Axiom One is valid, the activity can be reckoned as desirable for the good of the syston. The analysis stops there.

If the answer is ‘No’, then the next step is to Ask Question Two.

A ‘Yes’ answer to Question Two again ends the examination, it gives a second-tier green light to the activity. If the answer is ‘No’, then the examination passes to Question Three, and

so on.

If the examination passes down through all four questions with negative answers, then the implications of the Four Axioms, if these are valid, are that the activity is either not desirable for the syston, or is irrelevant or neutral.

Take it Slowly, Now . . .

In this book, I will be making no attempt to logically *justify* these Axioms through reasoning. Instead, we will look at applying these axioms to many different situations, and seeing what the results look like. That will give some handle on the applicability or ‘truth’ of the Axioms in the real world.

But I will dwell for a little on the forms of words used in the Four Axioms and their Four Question counterparts. I have tried to formulate these as succinctly as possible, and so a little expansion of what I intended them to mean may not be out of place.

Axiom One. *The only valid Tier One activities of Government are those designed to directly maintain threshold levels of health and safety within the syston.*

This axiom means that the government of any syston has only one group of activities which rank with first importance, that is, taking precedence over all others. These are activities which are directly intended to maintain defined threshold or ‘floor’ conditions of health or safety for all members of the syston.

Note that the threshold levels each represent a defined minimum, and not, say, an optimum or ‘best possible’ level. While it may well be to a syston’s long-term advantage to gradually raise its threshold levels, this axiom implies the need to set a threshold, not to change it.

Note also that the threshold level of a narrower syston must be equal to or higher than the equivalent threshold level of a wider syston which contains it. Within Australia, for example, the state of Victoria could not set a threshold for the control of contagious diseases which was lower than that set by the Australian Federal government, because Victoria is currently part of Australia. Logically (not legislatively) the minimum for a part could not be less than that for the whole.

As an example, let us take some de-facto thresholds, those for nutrition. In Australia and in other developed countries, individual State Health Departments or their equivalents will strive to maintain nutritional standards in the food available to their populations. A federal government will also monitor this question, but logically cannot set standards higher than those in individual States.

Beyond national boundaries, another lower de-facto level applies. Most nation-systems would see it as an obligation to try and eliminate actual starvation through non-availability of food in other less fortunate countries — this is the bottom line as far as the world-syston threshold is concerned.

Finally, note the use of the word ‘directly’. It excludes actions which are one step removed, say setting minimum wage levels on the grounds that they will permit buying of sufficient good food, or minimum air fares on the grounds that they are needed for safe aircraft operation.

Later we will look at other, perhaps more subtle, instances of step-removed actions and their implications.

Axiom Two. *The only valid Tier Two activities of Government are those designed to directly raise the level of infocap within the system.*

The second axiom is concerned with what we will refer to loosely as ‘the good’ of the system (later we may try and work out what this tag really means). It suggests that the system will operate better, more successfully, the greater the amount of infocap it contains, and that should be the second-priority concern of the system government.

Because infocap includes such a diverse spread of things figuring in society, it is important to note that this Axiom does not single out any particular form. It says that increase in any form of infocap will benefit the system. Obviously it will include education, public works, and especially formal research, but will also include less obvious things such as entertainment and encouraging its systems to visit out-system, as in overseas tourism.

When this Axiom is presented in the form of its corresponding Question, it can provide an answer to some of the things people argue about. As an example, consider the competing claims of the ‘public utility’ and the ‘commercial business’ camps in the matter of electricity supply.

When Question Two is asked about this matter, it gives an answer which most would view as reasonable. That answer is, it is justified for government to be involved in setting-up a new electricity supply to service its own system, because that action increases its infocap content. It is not justified for a government to continue to maintain involvement in electricity supply when private business is ready and able to act competitively in this. However, even when the latter situation is attained, it is still justified for the government to fund research into improved electricity supply techniques, whether or not ‘the government’ will benefit financially from the research.

A local example concerns an endowment land grant which the WA Government was making to a new private university which was being set up. Existing public universities in the State made a great outcry about the ‘fairness’ of this — saying it was “unjustified to spend public funds on a private institution”. Ask Question Two, and the justification is apparent.

Axiom Three. *The only valid Tier Three activities of Government involve the minimum taxing of system synenergy needed to carry out Tier One and Tier Two activities.*

This Axiom says that the wherewithal to operate the first two tiers of government activity is to be drawn from ‘taxing’ system synenergy, and that this taxing is to be kept at the minimum feasible level.

In this Axiom, ‘taxing’ means both conventional taxation mechanisms and other measures which have the same effect. The actual mechanisms will obviously vary with the nature of the system. With a Parents & Citizens Association, for example, the ‘taxing’ may be a contribution of labour or thought to the fund-raising school fete.

An important distinction here from the previous Axiom is the use of ‘synenergy’ rather than ‘infocap’. It implies that activities are to be taxed, rather than assets. The implications of this point are very considerable.

The requirement that taxing be at a minimum stems from Axiom Two, in that excessive taxing reduces possible infocap content gains. Axiom Two also gives the grounds for the synenergy/ infocap distinction, in that asset taxation directly reduces infocap itself, while taxing its movement need not.

Axiom Four. *The synenergy taxation needed is at a minimum where government activities are moved into the narrowest possible system government.*

The implications of this Axiom are that de-centralized government activities will be more efficient in overall system benefit terms than will centralized ones. As an example, schools run by local authorities will be more efficient than a single centralized State system — provided that the local councils have sufficient infocap resources to maintain the schools.

On the other hand, testing of new car drivers for proficiency might well be an activity under the oversight of a central government, because Asking Question One about this activity would give a ‘Yes’. Of course, this response does not preclude the central government from contracting-out actual testing while still overseeing standards, nor would it preclude local authorities from offering their own Advanced Driving course, in an effort to have a higher local Threshold.

There is an echo here of Proposition 110E, which suggests the advantages of contracting-out system functions. The essence of the reasoning here is that infocap resources are better shared, since infocap is not necessarily conserved, which means that using these resources does not necessarily use them up — the same idea can be used time and time again.

Against this is the requirement for infocap to aggregate or clump, in order to permit infocap breeding and maintain system skins.

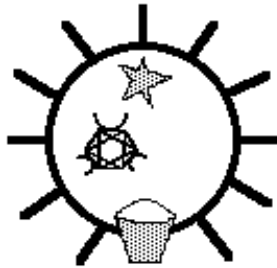
All this has obvious economic implications, and so far in this book, economics has hardly figured at all. A proper venture into the steaming morass of economics will have to wait until Chapter 201 in Book II.

The Matrix Jostle

Readers will be able to see that the Four Axioms developed here give a handle to looking at all sorts of competing systems, jostling together in the Matrix. For example, if different political parties are considered, the differences between them may come down to different emphases on the various Axioms — one may stress Axiom One to the exclusion of Axiom Two, another the converse. A third may sit like a spider with a good balance between the pulls of the different Axioms. We will add detail to this area in Chapter 125, a Matrix Geography.

Another area which has been avoided so far in this book is the matter of rights and wrongs, what is fair and what is not. That will be tackled sooner, in Chapter 122. But first we will leave Governments, and look at other important types of system active in the systems.

Chapter 117



IT'S NOT MY FAULT — Scapegoats, Idols, and Resonodes

“Let him go for a scapegoat, into the wilderness”

— Leviticus 16: 10

The Officer I/C Blame

Once in an organization where I worked, we idly toyed with the idea of creating a new position in the Management Team.

The position was to be Officer in Charge of Blame. The concept was to create this as a dummy position; every year or so, or after a particularly notable blunder, we would sack the dummy OICB, and from then on till the next sacking, all errors or unfortunate occurrences which came to light in the organization would be attributed to, say, ‘Dummy-No.6’, “who we had to get rid of last year”. In the meantime, we would share his salary among us.

Now that was a nice idea, but of course it wasn't serious. But when we come to examine the inner workings of a system, we will often find that it contains an OICB. In this book, we will call this entity a ‘scapegoat’, and give it a symbol resembling a bucket (Figure 117.1).



Fig. 117.1. The MT symbol for a ‘scapegoat’

The concept of there existing one or more scapegoats in a system isn't a particularly novel one. Look around at the systems which are making the news nowadays, and you can usually spot them. What we are more concerned with here, from the MT viewpoint, is their function as specialist systems in the system.

The connection between scapegoats and SIOS will be apparent to the reader, in that scapegoats are usually the victims — or rather the recipients — of SIOS. However, the relationship is not entirely straightforward. Scapegoats usually exist within a system, whereas SIOS is mainly directed to those outside the system.

The Medium is the Message

In his wonderfully wide-ranging book *Lifetide*, Lyall Watson [1980] considers various aspects of what we class as ‘The Supernatural’. A more detailed review of the relationship of this area with MT will feature in Chapter 218, but for the moment we will dwell briefly on one aspect of the supernatural, that of seances.

The concept of seances, where ‘spirits are recalled from the Other World’, usually through a human mediator called the Medium, is a familiar one. Seances were particularly popular in Victorian times, and they still go on today, even though the tendency of the modern veneer of sophistication is to reject them as ‘unscientific’, and therefore nonsense.

Watson reports a number of serious investigations of seances, and also an interesting technical fact. It appears that for successful manifestation of many apparently psychic phenomena, it is very important that a ‘scapegoat’ is present who can be blamed for anything that is viewed as bad.

This scapegoat might be a real person, or an inanimate object, but most often is an imaginary being, usually one from the Spirit World. By adopting this concept as a practical technique, Watson says, groups of perfectly ordinary people, without any psychic pretensions, are producing paranormal phenomena “simply by pretending that the rules of science don't exist”.

Watson has been involved with a Canadian seance group in Toronto, who blame what they do on an imaginary ghost they call Philip. By consciously attempting to behave like children, singing rude and silly songs and regressing to a fantasy-world state, they have regularly produced phenomena such as levitation and rapping sounds, even on live television. These phenomena, they insist, ‘tongue in cheek’, are the results of Philip's responses to the bawdy conversations they hold with him.

The fact that some of these phenomena appear to be genuinely paranormal — Philip's raps, for example, last only 0.16 of a second, one-third of the time a rap with your knuckles lasts — are not of relevance here. What is important is the suggestion that anyone can produce such results through the use of a technique, one involving setting up a ‘dummy’ as a deliberate scapegoat.

A Little Oil

Some years ago I read a science fiction story about a group who were sent off on a long interstellar exploration expedition, one lasting some years. Naturally the group included a

number of different specialists in the various scientific disciplines under study.

In the story, which was called *A Little Oil* (I haven't been able to trace the author), as well as all the experts and qualified crew, there was what amounted to an odd-job man, who I will call Joey. Joey had to do all the routine stuff — washing up after the cook, cleaning up the test apparatus after use — which the highly qualified experts didn't have time for.

He wasn't always particularly good at these jobs, being noticeably accident-prone, and not infrequently made an utter fool of himself. Either he would trip over some minor object, crashing to the ground and covering himself with the remains of the team's last meal, or he would misunderstand some simple request and end up in a hopeless situation from which he had to be rescued, twittering and explaining.

As with any small number of people cramped together over a long time, tensions and disagreements arose among the experts in the group. Somehow, though, whenever things started to become really serious, the tension was usually relieved by a good laugh at Joey's latest catastrophe.

Finally, after many years, the work of the expedition was completed, and the ship returned to Earth. After the landing, the celebrations, and dispersal to their home parts, a secret came out. Joey was himself a specialist. He was a world-class circus clown. He had been drafted into the crew as a scapegoat.

Proposition 117A*. *The functioning of a syston may be enhanced by the presence of a specialist 'scapegoat' systel to which blame may be attributed*

Someone to Look Up To

All right, what about the opposite to a scapegoat, somebody who gets all the praise? It seems to be that this, too, is an important systel function.

In this book, I will call this specialist systel an 'Idol'. For a representational symbol, I will use a star (Figure 117.2). The usage of both these terms will be familiar to the reader, as with film idols, pop stars, and the like. As always with MT, though, their use will be applied throughout the matrix, to any level of syston.

As with scapegoats, idols may be of the most varied type. A useful attribute of an Idol is when it is not involved in any essential operation within its syston. In Britain, the arch-Idol for its inhabitants is probably still the Queen. The British monarchy, regarded as essentially above politics and not involved in the day-to-day running of the country, performs a valuable role as an Idol.

It is noteworthy that this Idol is not really an individual — essentially it is a monarchy-syston, and its CEO, as it were, may change from time to time ("The King is dead, long live the King"). The symbol persists — I was recently called up as a juror, and was interested that the case was presented as the defendant versus "Our Sovereign Lady the Queen". And, of course, this syston-symbol often has a name, "The Crown".

In most cases, Idols are individuals, and this does mean that they have a limited life span.



Fig. 117.2. The MT symbol for an 'idol'

An important feature of Idols is that they may have super powers. In Britain, and formerly in Australia, when all legal channels were exhausted, the last resort was an Appeal to the Sovereign. And in practice, without any legal or financial advantage, an Idol may be able to get something done solely because they are an idol — they are surrounded by an aura which makes people want to support their beliefs. As an example, consider the success of film star Brigitte Bardot in reducing the slaughter of seals.

In a recent Australian television programme, Frank Blount, a US telecommunications executive, was asked about an episode in his past when he abandoned the industry to carry out an assignment involving public education. "The President asked my company to release me for that", he said. "You just don't say no to the President of the United States, at least in my country".

In MT terms, such logically unwarranted super-powers may not be a bad thing. Just as scapegoats provide a useful outlet for feelings of guilt or inadequacy — a sort of sink for unwanted synenergy flows — so too may idols provide a useful, clearly recognized target for other, perhaps excess, synenergy flows. And they may further benefit their syston by providing mechanisms for 'magical' powers — powers beyond those usually recognized as normal for the syston.

Proposition 117B*. *The functioning of a syston may be enhanced by the presence of a specialist 'idol' systel to which praise may be allocated*

Who Wants to be an Entrepreneur?

In the mid 1980's, it was quite common to see advertisements in Western Australia for talks and courses on 'How to Be an Entrepreneur'. Now, in the aftermath of continued revelations of business and government scandals, to be called an 'entrepreneur' amounts almost to an insult.

Public perceptions can change very quickly. And so, a systel functioning as an idol can quite quickly become a scapegoat. The reverse is less common.

And the government systel we looked at in the last chapter can also change from idol to scapegoat, seldom the other way. "It's all the Government's fault", isn't this a very common cry? Of course governments have a hard time remaining as idols because they are involved

in the day-to-day running of their systems.

Readers will be able to identify other specialist types of system operating. Here we will look at just one more type — but a very important one.

Drilling Through Diamonds

Diamond is the hardest natural substance known. For this reason, it is unexcelled in wire extrusion dies, where a softened metal is forced like spaghetti through a tiny hole. Softer die material would wear much more quickly.

But how to make the hole? Diamonds cannot be worked with normal materials, which are all softer, when a diamond is ‘cut’ it is actually just split along one of its natural lines of cleavage. The answer lies in the pulsed laser.

With this, a very high-energy pulse of light in a very narrow, parallel beam is produced in the laser, and this has the power to actually burn through the diamond and produce an excellent smooth hole. The power is built up in the laser through a process called resonance or ‘pumping’.

Another way of producing very high power levels is through optical focussing. For example, ordinary sunlight can actually melt a small piece of steel, if it is concentrated in a solar furnace — essentially a giant magnifying glass.

In the MT apparatus we have built up so far, we have seen the parallels between everyday forms of power and energy and the phenomena involved in infocap and synergy flows. In looking at a third type of specialist system, we will again draw on these parallels.

Resonodes

The basis of this treatment is the suggestion that a type of system operating in many systems has the ability to focus or amplify synergy within itself, through some process of resonance. In a way, these systems are a bit like a computerized telephone exchange, taking in incoming connections and concentrating them into an optical-fibre cable connected to another distant exchange. They can be regarded as nodes within the general Matrix.

Proposition 117C*.** *Systems may contain elements which have the ability to focus synergy flows through internal resonance — ‘resonodes’*

For this type of system, I have had to coin a name, derived from ‘resonance node’, because I have not been able to find any really suitable parallel term in everyday life. A resonode, in the present interpretation, could also be called a focus-gate, or an emotion-concentrator, but these too are only made-up terms. We will get a better feel for the term by looking at some examples.

Earlier in this chapter we mentioned seances. In seances, the resonode is the ‘medium’, the gate and focus between the participants and the ‘spirit world’.

Too airy-fairy? A more everyday example is found in the performing arts, particularly concerts. There, the conductor, perhaps described as a “brilliant interpreter of Mozart’s score”, is clearly doing more than just performing his own manual actions. Somehow he is

able to focus all the efforts of the individual musicians and deliver a resonated product to the audience, and perhaps also channel back audience reaction, feedback, to the orchestra members.

Orchestral concerts, and indeed many large gatherings of people, generate a form of synergy which is called ‘atmosphere’. In Chapter 124 I will mention an instance of atmosphere at an Ella Fitzgerald concert, and its role in actual formation of short-lived systems.

Individuals with notable resonance abilities may be said to have ‘charisma’, or ‘magnetic personalities’. Sometimes the exercise of this ability is resented, as when a woman claims that a man is “undressing her with his eyes”.

Later in this book we will encounter other examples of Resonodes. As in the other specialized systems, they need not be individuals — some research centres, for example, may be able to mobilize a whole industry or scientific discipline along some exciting development direction.

As usual, we will introduce a symbol for a Resonode (Figure 117.3). This symbol is intended to evoke the idea of a microwave dish unit receiving, processing, and transmitting information.

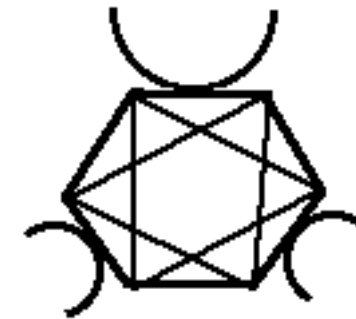


Fig. 117.3. The MT symbol for a ‘resonode’

Going a Bit Far

Having got this far, we might as well go the whole way, and declare where all this is leading to. At the risk of being declared ‘beyond the fringe’, I will extrapolate and generalize the concept discussed with another big jump.

Proposition 117D**.** *Resonodes are the means by which systems interact with the Matrix as a whole*

We will not push this concept much more here, though it will be referred back to in later parts of the book, especially in Chapter 218, on the ‘supernatural’. This last word is, after all, only a tag applied to phenomena for which we do not have a satisfactory explanation, for which

no clear mechanisms are available. Perhaps MT can move toward providing them.

For example, it starts to give a handle on such concepts as Rupert Sheldrake's 'morphic resonance'. According to this concept, when an advance is made in one part of the world, perhaps as little as a group in Liverpool learning some words out of a synthetic language or symbol set, it immediately becomes easier for a distant group in Australia to do the same thing — like the presence of a minute 'seed crystal' enabling larger crystals to grow from a supersaturated solution. Actual tests of the 'morphic resonance' concept have given results tending to support it.

Something perhaps more readily acceptable is the notion that advances are made when 'there is something in the air'. Examples of parallel development of basic ideas, as with Newton and Leibnitz both coming up with the mathematical calculus, or with Darwin and Wallace independently hitting on the Theory of Evolution, are not especially hard to find. Whether such instances are purely a matter of the conditions being ripe, the solution being brought to supersaturation as it were, or whether there is more to it, is something we may hope to have clarification of in the future.

There is an observation concerning resonodes which may be helpful in explaining things that happen in human society. Functioning as resonodes is much more common with women than it is with men.

Why Can't a Woman ... Be More Like a Man?

"Why can't a woman be more like a man?". That was Professor Higgins' plaintive cry in 'My Fair Lady'. He could not understand why women had to be so illogical, so unpredictable, and so sensitive, not at all like "us regular chaps".

And, on the other side of the fence, similar cries are heard. Why is it that men are so thoughtless, insensitive, and uncaring? Why won't they take responsibility for the children, why don't they appreciate all the work involved in running a house? And, above all, *why won't they communicate?*

There seems little doubt that huge catalogues of these characteristics could be compiled by those on either side of the Battle of the Sexes, which we looked at briefly in Chapter 107. These weighty catalogues may be useful armaments for the two sides to throw at each during the course of this battle, but are they of any other use?

The relationship between the sexes must have been a concern of humans from their earliest days, and the ebb and flow of the battlefield has always been a topic of keen interest, or perhaps of great passion and indignation. A recent snapshot of this matter has been produced by columnist Ruth Ostrow [1991].

Ostrow quotes a former man friend of hers: "*You women want men to be sensitive and caring and read you poetry and massage oil into your feet after cooking you a nice meal. But then you get shitty if the man isn't out building empires. If he is out building empires and slaying dragons to protect you and buy you nice things, you get shitty he hasn't got the energy to read poetry, see art films with you or make love all night. You're all the same. You set up this impossible catch-22. Who needs it?*".

Ostrow comments: "*My women friends sit around huffing, puffing and sighing. They have*

heard it all before. All have had to deal with men going physically or emotionally AWOL. All, at some stage, asked for a deserved commitment that was never given.

The lessons for women in the '90s seem to be: listen to what men are asking of us; accept the brutal reality that we are very different; learn to let go."

Wise words, perhaps. From the MT viewpoint, the middle piece of advice is the most important. Men and women are very different.

No doubt the existence of some physical and psychological differences has always been obvious. But an increasing number and range of such differences are becoming apparent. Clair McIntosh [1992] says that "researchers in dozens of fields, from neurobiology to psychology to linguistics, are discovering more and more areas in which the sexes seem to part company".

McIntosh tags the differences as follows: "*She lives longer; She sleeps better; He's long-winded; She's verbal, He's visual; She gets more migraines; She sings blues, He tunes out; She weighs all the facts; She can't drink as much; She gets assertive with age, He gets softer; She gives more gifts; He changes the channel; He says "I'm sorry"; He's more likely to be violent; She's more sensitive and intuitive; He runs faster (but She's gaining)"; and finally [who could believe this?], "He's so vain".*

Stand Back Three Paces

All right, let us back off and apply a bit of MT to this situation. First of all, Professor Higgins' dire complaints and those from the other quarters are not much help. They identify male/female differences, sure, but they then make an unwarranted step. That step says, "You are different to me; I am right; therefore you are wrong".

And from this unwarranted step derives most of the fire which fuels the Battle of the Sexes. It is an expression of the SIOS which permeates all systems. In MT terms, the step is unjustified because it goes against basic MT assumptions that diversity is best (eg Proposition 109A), and that system task-sharing is better allocated in a complementary way (eg Propositions 107A and 107C).

In another derivation, it seems reasonable that the differences between men and women have continued in existence, rather than being bred out by natural selection, because they perform some useful role for the race. The system benefits from the diversity of the systems, however inconvenient that may be for them, and the diversified system survives preferentially over other systems without that diversity.

Male/female relationships are such an important part of human society that we might spend another Proposition for this particular case.

Proposition 117E*. Men and women have different characteristics, both physical and mental, because the consequent diversity is of value to society

Children and Dogs Always Know

Back to the main theme of this chapter. We have looked at the operation of specialist systems, and I have suggested that women are more effective as Resonodes than are men.

Look at the characteristics ascribed to women — sensitive; intuitive; communicating. All these things suggest that women, generally, have an effective way of interacting with the Matrix. They are better at delivering emotions, providing the glue in the person-mix of society, adding ‘a little oil’. Of a friend of ours, the only girl in the family, her brother said “Alli holds the family together”.

The characteristics of women have another facet: illogicality. The straight male SIOS interpretation of this is that it is Bad. The MT interpretation is that resonoding is a valid method of interacting with the Matrix, perhaps as powerful in its own right as the Scientific Method which is more the preserve of men. In an expression of Proposition 107C, the two systems dominate society, both competing and complementing.

Look where women predominate. The medium in a seance is almost always a woman, the fortune-teller or clairvoyant, the seer in the ancient temple, all are usually women.

So far I have referred to men and women, rather than males and females. It is an interesting physiological fact, that men undergo one more development stage than women. While there are obvious differences from birth, boy and girl children may be psychologically more similar to each other than they are to adults. All children tend to have imaginary friends, tend to see monsters in the shadows, tend to play-act, whatever their sex.

As they grow older, the boys differentiate from the girls, their voices break, their body hair proliferates, their muscles grow. Physically, the girls are left behind, behind a physiological and psychological hump which only the boys surmount.

A friend once said to me “Children and dogs always know what is going on in a family”. It may be, that as boys mature, they lose some of their resonoding ability as they move into the apparatus of logic. Resonoding may fall off with age.

Proposition 117F*. *As systels move through their development cycle, their ability to act as resonodes may diminish*

Dividing up South America

In 1493 Pope Alexander VI (perhaps the most unusual pope in history) signed a Papal Bull which divided the lands of the New World between Spain and Portugal — including South America, which was yet to be discovered. The Pope’s five acknowledged children included a son who rose to the rank of Cardinal (on his own merits?), and was accused of murdering his older brother — a Duke. The Duke’s stabbed body was found floating in the Tiber. There was also a daughter, Lucrezia Borgia, one of history’s most acknowledged experts on poisoning.

The Pope’s action is ultimately the reason why Brazil speaks Portuguese, and the other South American countries Spanish. Let us now try to emulate the Pope, and divide up the Matrix World into two portions, male and female.

To get a ‘feel’ for the male/female relationship in the MT picture, we can construct another example of a matrix cocoon (Figure 117.1). In this picture, male and female are each represented by a circle within the cocoon.

This representation is a flat, two-dimensional one. In actual fact, instead of a flat circle,

each gender could be represented by a round mountain, so that the bell curves in Figure 109.3 would be a cross-section across these mountains. The circles would then be replaced by contour lines, and the points F and M would be the peaks of these mountains.

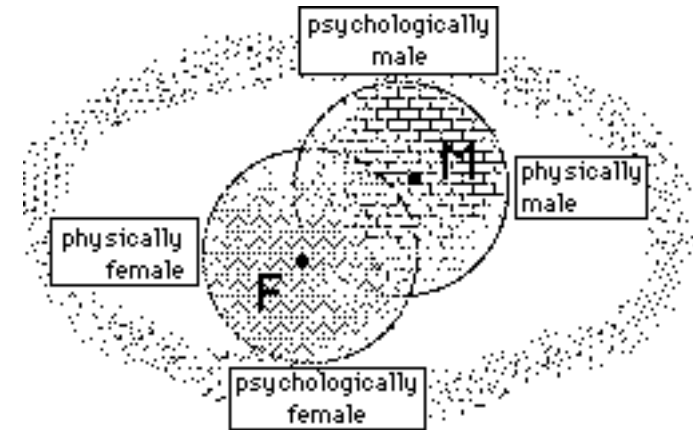


Fig. 117.1. Male and female influence in the Matrix Cocoon

But that is perhaps complicating things too much. The important thing to get over is the idea that when we talk about ‘men’ and ‘women’ we tend to identify these concepts as the points M and F in the picture. In actual fact, they are far more spread out, more diffuse, and — a very important point — they are also overlapping.

This two-dimensional representation can be used to plot the position of a particular systel, a particular individual in this case. Only women who are very close in both physical and psychological makeup to the mode — the most common situation for women — will be at the mountain peak F. If they differ from the ‘norm’, which sits where the point F is, in common parlance, they will be further out towards the edge of their circle, towards the foot of their mountain.

In this picture, physiologies which are more female are to the left, more male to the right. Psychologies which are more male are to the top, those more female to the bottom. This picture gives a visual representation to the matters which were discussed in Chapter 109.

A typical linear view of the situation would see only the mountain peaks F and M, all else is obscured by a rising mist of complexity. In practice, we are not quite as tight-banded as this. McIntosh, for example, is at pains to point out that rules about men as a group, or women as a group, are frequently contradicted by individual examples.

Life in the Col

In the common view of the Battle of the Sexes, the opposing forces are camped at strategic positions on the tops of mountains F and M, firing fusillades of accusations at each other.

Those who live in the extreme southwest or northeast are somewhat shielded from the action. Although they are far-out, at least they know where they stand — they have a clear F or M written on their bellies.

Those living on the approaches to the pass between the mountains are in a more difficult position. Often they are not certain which mountain they are on — the boundary is not particularly clear. A common saying is that they do not know whether they are arFur or Martha.

Those living right in the Col itself, the part of the pass directly on the line between F and M, are in the most hazardous position of all. They can take it for granted that SIOS will repel them from both of the safe hilltop keeps.

And yet these Col Dwellers possess some of the most valuable gifts, in the form of less usual combinations of characteristics. These combinations allow them to carry out functions in society not possible for those having only some of their characteristics.

Proposition 117G*. *Homosexuals can perform valuable roles in society because they have less usual combinations of characteristics which suit them for these roles*

Here then are reasons for why homosexual elements continue to exist in human society. An explanation of why homosexual men are unusually common in the resonating roles — acting, painting, conducting, cooking, writing — functions which need the ability to interact in a non-logical way with the Matrix as a whole. And why women homosexuals may be prominent, not only in clearly physical arenas such as sports, but also in ‘logical’ areas such as the hard sciences.

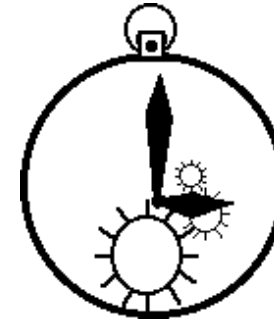
Perhaps it is still necessary, even here, to emphasize that nothing in the above is intended even remotely to imply that all male actors are homosexuals, or all female scientists are lesbians. Nor is it intended to imply that homosexuality should be encouraged.

As always with MT, there is only a view over an undulating and extensive sweep of ground. Within this view, there is an observation that only relatively few people are able to fully embrace both the rational, logical, and confined approach more typical of men, and also the intuitive, sensitive, and far-reaching approach more common in women. Usually, it seems, one approach necessarily displaces the other.

It may be appropriate at this point to try and encapsulate the MT response to such questions as “Which are best, men or women?”, or “Which is best, science or the arts?”, or “Which is best, logic or intuition?”. The MT answer to all these questions is “Yes”.

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Chapter 118



FOUR CELLS IN A COCKROACH — Syston Pacemakers and Halfives

“An organism’s response to an external stimulus varies critically with the phase of the rhythmic cycle that it happens to be in at the time”

— Ritchie R Ward

Living Clocks

In his fascinating book *The Living Clocks*, Ritchie Ward [1971] tells of the researches of the Cambridge scientist Dr Janet Harker on cockroaches.

Cockroaches, the most primitive of all creatures which possess wings, are perhaps a long way removed from humans. But they have organizational simplicity, and functions which may depend on a complex interaction of organs in higher animals may be much more localized in such a simple creature. So they can form a good starting point in researches about such functions.

The area which Janet Harker was researching was that of time senses in animals. Every living creature possesses some sort of ‘time sense’, and often a complete range of different senses for different periods. These time periods range down from decades, as in the Talipot Palm of Sri Lanka which may wait 60 years to flower for the first and only time, down to fractions of a second, as in the recharge cycle in animal vision.

Underlying each of these periods or cycle times is some sort of clock mechanism. One of the most important cycles in life processes is the diurnal rhythm, that dependent on the alternation of day and night.

Obviously many of these clock mechanisms are dependent on external signals, on what we might call pacemakers. With the diurnal cycle, the main pacemaker is the rising and setting

of the sun. But that is not the whole story.

Most creatures have their own internal pacemakers as well. That is why jet-lag occurs in people who rapidly fly between different time-zones — there is a conflict between their internal and external pacemakers. And this may be the reason why so many people dislike the practice of altering local time twice each year with ‘daylight saving’.

A number of interesting studies have been done of people isolated in deep caverns, well out of contact with sunlight and external time indicators, but with lighting and such under their own control. Invariably such people settle down to a quite precise ‘day’ of their own, maintaining their day-length fixed within a few minutes, purely from their own internal pacemakers.

So far I have not seen a convincing explanation of why these ‘private’ day-lengths vary from the usual 24 hours, because vary they do. Different creatures — plants as well as animals — may adopt or adapt to private day-lengths varying by as much as an hour or more from the norm. Of course this is not a large variation, only 5%.

The important thing is that it is clearly evident that creatures do possess accurate internal pacemakers. Many people are able to wake up each morning at a given time, without the benefit of an alarm clock. Some can even set an ‘alarm clock’ inside their heads to wake at a particular time the next morning — I can sometimes do this myself. The fact that the pacemakers involved are really internal ones (and not due, say, to an unexplained ability to ‘sense’ the position of the sun even though underground) is shown by the fact that the ‘private’ day-lengths do not match the ordinary 24-hour one.

Other Life Time-Cycles

Many other time-cycles are very important to life. The heart pacemakers used in people with irregular heart rhythms are, presumably, only a manufactured substitute for a natural function which is not performing well — somewhere inside each animal is a ‘circuit’ which generates the next heart-pulse.

Longer-term cycles may concern reproduction. The fertility/ menstrual cycles in women are, of course, paced externally by the movement of the moon, as well as internal clocks. Poinsettias can be made to flower out of season by altering their apparent day-length; flowering and fruiting behaviour is paced by both day and seasonal influences.

Shorter-term cycles are more subtle and, as yet, very imperfectly known. But it does appear that many of the shorter-term life cycles are paced by oscillating chemical or physiological states, where a reaction can take place at one point in the cycle, but not at another.

Consider, for example, the growing twig of a pecan tree. As the twig extends, most of the new cells being formed are of ‘standard’ twig tissue. But every so often, the new cells are formed into a leaf bud, or the start of a male or female flower. How does the plant do this?

At The Fair

Presumably there is a chemical cycle going on in the twig, with the amount of some chemical ‘trigger’ being built up until it reaches a threshold, initiates a changed action, and is exhausted. The ‘standard’ action then continues.

In a way, it is like one of the giant swing-boat amusements at a fair. After the passengers get in, a push is applied to the boat, and it starts to swing a little. At the end of each swing, another push is given, and the amplitude of the swing increases.

Gradually the swing is built up, is pumped or resonated, until the boat is at its highest. At the peak, you can do things not possible lower in the cycle — see over the fairground fence, perhaps. It might take 100 seconds to reach this ‘trigger’ or ‘threshold’ condition.

In the analogous chemical reaction, the cycle time to reach the activation threshold may be very short, in an explosive reaction it is only a tiny fraction of a second. But all such actions and reactions do have cycle times.

Other actions are electro-chemical. For a nerve impulse to move, a receptor cell, fully charged and ready to go, is triggered by some external event (say a bang, in the case of a hearing impulse). This cell discharges, sending an impulse into the next cell in the nerve line, which itself discharges into the next, and so on.

After discharge, a nerve cell must re-charge before it can operate again. This is not an instantaneous process. Nor is the cell discharge pulse cycle instantaneous, which is why the ‘speed of thought’ is not actually very fast — only about 10 metres per second.

With human vision, the receptor cells in the retina of the eye take around a twenty-fifth of a second to recharge. This is why separate picture sequences viewed more rapidly than this, as with the frames of a cinematograph film, appear to have continuous movement. And television images, which are paced by the cycle of the alternating-current power supply, would appear jerky if this supply was, say, 10 cycles/second instead of the normal 50 (60 in the US!).

In modern small computers, the suppliers proudly claim that their machine runs at, say, ‘200 megahertz’. A megahertz is a million cycles per second, and in the case of these computers, the pacemaker is a special crystal which oscillates at the rated speed. Each crystal cycle drives one tiny operation of the machine — without this pacing it could not operate.

Say When . . .

All the above background is leading up to a fairly obvious conclusion. That is, that regular processes in living creatures and some of their analogues require continual regular prompting to operate successfully. We can state this as a Proposition for all systons.

Proposition 118A. All systons need some forms of pacemaking for successful operation of their regular internal processes***

Let us examine a real question as an illustration of this. Why do we, in democratic societies, have General Elections? Now hold on, I am not asking why we have elections, but why they should be all lumped together at the same time.

There could be a good linear-logic case for staggering election terms. If seats were held for four years, each seat could be held to the end of a given month, and in each month elections would be held for about one-fortyeighth of the seats. This would enable a small, experienced team of election officials to be moved on from one election to the next, instead of needing to engage a huge team of inexperienced workers for a once-in-four-years effort.

Electoral rolls could be updated and checked leisurely in sequence, instead of a great rush. And from the public's point of view, every month would bring an opportunity for them to express a view on current issues, as now happens with by-elections. From parliament's point of view, the Government should have more continuity and stability, with changes to its composition being gradual rather than holus-bolus. This stability and continuity is supposed to be the reason why in the Australian Senate, seats are held for two terms rather than one. In the US, Senate seats are held for three 2-year terms.

So why don't we run things this way? Look at the situation now from the MT viewpoint, look at what all the general-election hullabaloo is really about.

First, the general election is a pacemaker. Its occurrence switches people's interest from other matters into that of the election, and moves them into a different section of the political cycle, one where actions which are 'chemically impossible' most of the time do become possible. It diverts some synenergy flow from normal to special purposes — as if the pecan-tree syston is preparing to make a flower bud.

Second, it thickens up the skins of the competing systons involved in the election process, to make their boundaries more obvious and, temporarily, effective at holding the individual systons together. Now is the time for the individual to declare which syston he is standing in, and not sit on the fence through uncertainty or disinterest.

Finally, the actual election ritual focusses and forms new and temporary, often unnamed and unrealized, systons, as 'the mood of the people' wavers. Ideas, discussions, 'memes', ricochet around in the syston mix, just as when an 'ugly mood' overtakes a crowd, and unsuspected ephemeral systons are formed, to be collapsed, discharged like a nerve cell, at the actual election.

I suspect that this last phenomenon is a reason why pre-election opinion polls often do not reflect actual election results. However accurate the sampling and polling of individuals before the election may be, on the day, the ephemeral election-systons hold sway. And if infocap and synenergy are not necessarily additive over systons (Proposition 114B), then of course adding individual pollings together will not accurately reflect the wider syston position.

When Things Go Wrong

But back to the cockroaches. Cockroaches, like all insects, really have two brains. The main one is above the mouth, but the second one, called the 'sub-oesophageal ganglion' is below the gullet. It is about the size of a pinhead, and it is this ganglion which controls typical insect movements.

It is this feature which makes it hard to stop a cockroach in its tracks. A cockroach with its head cut off can still run about for days, and perform many functions — even copulate. Eating is a problem, though, and eventually the creature just runs down.

In her researches, Janet Harker developed very precise microsurgery skills, and used these to experimentally determine where cockroaches kept their internal timing function. She was able to track down this 'clock' to a group of just four neurosecretory cells in the sub-oesophageal ganglion. She was able to prove that these cells were the real clocks by surgically replacing the four cells in normally-conditioned cockroaches — what we could regard as

running on Greenwich Mean Time — with those from cockroaches conditioned to a displaced day/night cycle — running on New Zealand time, as it were.

All the 'British' cockroaches immediately behaved as if they were running on New Zealand time, and kept up the displaced cycle for days.

And then, in a further experiment, Harker tried the effect of transplanting *single* neurosecretory cells from a time-displaced cockroach into a normally-timed one. The effect was to equip the cockroach with *two* clocks, running at different times. This experiment gave a totally unexpected result.

All the cockroaches treated in this way quickly developed intestinal cancer and died. Tumours in insects are very rare, but the stresses involved in having two out-of-phase pacemakers operating at the same time were evidently enough to completely upset the normal biochemical reactions in the creatures.

There is a possibly useful clue to cancer-causing mechanisms here. Extrapolate far enough, and we could say that Daylight Saving causes cancer! But in this book, we are concerned with a generalized deduction:

Proposition 118B. Pacemakers are vital in some syston processes, but such a process will not continue successfully with two competing pacemakers***

This Proposition is in contrast with Proposition 107C, which suggested that systons functioned most successfully with two dominant systels in competition. There is no actual conflict, however, as long as the distinction between a process and a systel is kept in mind.

Halflives

It will be useful in refining the MT apparatus assembled so far if we establish some quantitative measures for the timescales over which various things take place.

First, the measure we can use when talking about systons. This was mentioned back in Chapter 105, when we went into the 'half-life' of civilizations, and suggested that this figure was around 250 years.

The 'half-life' of some group of entities or objects is the time taken for half of them to reach the end of their lives. The concept originated with radioactive elements, they have this name because the individual atoms tend to break down and radiate energy as they do so. If we extracted a sample of a billion Iodine-129 atoms, and placed them in a container away from all outside influences, they would gradually break down spontaneously. After a quite definite time, only half of them would be left. This is the half-life, for Iodine-129 it is 16 million years.

Other Iodine isotopes have different halflives. That for Iodine-128 is only 25 minutes. And the common form of iodine, Iodine-127, is stable — a cautious physicist would say its half-life is long compared to the age of the Universe.

Although we know these atomic half-lives quite precisely, we have no way at present to predict *which* of the atoms will be affected, which half-billion of the sample will have broken down after the given time. So the half-life is a convenient way of specifying lifetimes for a group of entities with individual lifetimes which vary considerably among themselves.

This half-life is not quite the same thing as average life expectancy. Suppose you wanted to work out the half-life for a group of people, say the current population of Australia, and suppose you had all the relevant statistics.

If this is 1992, and you move backwards and look at the people who were born in particular years, the proportion of these who are still alive today will decrease as you go further back. Perhaps 95% of those born in 1982 are still alive, and only 10% of those born in 1913. The difference between the year in which exactly 50% of those born then are still alive and the year of measurement is the half-life. According to the last available Australian Government figures [Australian, 1991], the half-life of Australians as at 1986 June 30 was about 79.1 years, whereas their life expectancy at that time was about 76.0 years. This is the average for males and females — females are 5-6 years ahead of males in both measurements.

Cycle Times

Cycle times are similar to lifetimes, but they apply to processes rather than entities. A process with which we are all familiar is that the Earth turns on its axis. The time between when the sun is due north or south from a given spot and the next occasion when this is true we call a day.

Cycle times may be regular or may vary over a distribution, perhaps like that shown in Figure 109.2. Our day-cycle is very, but not completely, regular — at 8 am, 1992 July 1, one ‘leap second’ was added to Perth clocks to account for a very slight slowing down of the Earth’s rotational speed, so that day was 24 hours and one second long.

It is sometimes important to know exactly what a particular cycle time actually measures. For example, a ‘day-cycle’ is not the time the Earth takes to turn once on its axis, that cycle is about 23 hours and 56 minutes long. The four-minute difference occurs because the Earth is itself orbiting around the Sun, and after one complete rotation it has to rotate a little more to be in the same orientation with respect to the sun.

In this book we will sometimes use the term ‘half-cycle time’. It does refer simply to half the cycle time, and is used to be directly comparable with syston half-lives.

These timing concepts have been introduced here to allow us to ‘tighten-up’ some of the Propositions used. For example, back in Proposition 113A, it was suggested that a syston would be ‘ultimately disadvantaged’ by systel discrimination, and to put a limit on how ‘ultimate’, it was suggested that this was not longer than the syston halflife or process half-cycle time involved.

Biorhythms

The importance of so-called biorhythms has been increasingly realized in recent years. Many of the processes which occur in life are, in fact, critically dependent on these rhythms. Most of these rhythms are process cycles, only a few are syston half-lives. The rhythm interval is exactly the same thing as the cycle time, the time taken to get back to the same point in the cycle.

It will be apparent that not only living creatures, but in fact any sort of syston, may have the equivalent of biorhythms.

Rituals, Rites, Rhythms, and Cycle Pumping

A feature of a cycle is that it moves through varying conditions until it gets back to the same point in the cycle. Within any complete cycle there may be any number of smaller cycles operating. Within an average sleep cycle, for example, your heart may pump around 33,600 times.

There seems to be little doubt that when you come to look at what is actually going on within a process cycle, the progression of the cycle is often dependent on so-called ‘pumping’ effects. When you pump up the tyre on a bicycle, a particular sort of cycle, progressive inflation of the tyre depends on you compressing the batch of air in the pump cylinder to the point where its pressure becomes greater than that in the tyre itself. Only at that point will the tyre valve open to allow the additional air in.

A great many of the cycles we will come across in the MT analyses which follow will be pumped cycles. Like the pumped laser mentioned in the last chapter, or the fairground swing-boat mentioned in this, the process cycle is completed by progressive injection of a series of sub-pulses of energy.

We will frequently find that the pumping mechanisms involved in MT processes and syston lives are what are usually called rituals, rites, and rhythms. In more official terms, they may be called standard operating procedures or something similar.

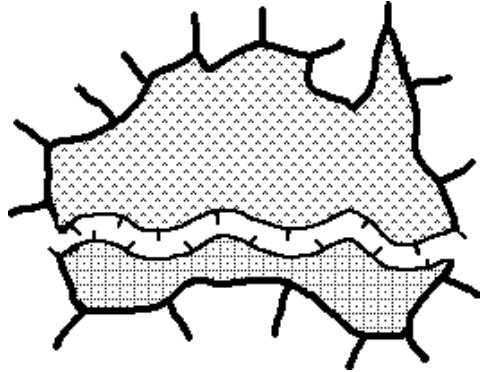
Proposition 118C. Syston processes are usually pumped through rituals and similar synenergy-injection procedures***

A familiar example of rituals is those involved in religious services, say a marriage ceremony. The congregation assemble, the vicar or priest appears, there may be music or songs, readings and addresses, the wedding text is read and responded to, rings are exchanged. Once started, the whole process continues on inexorably, each little sub-ritual pumping it on a little further.

Similar rituals are involved in forming and developing all sorts of systons. In a temporary orchestral-performance-audience syston, the ‘atmosphere’ is built up with the entry and seating of the audience, the appearance of the members of the orchestra, the tuning-up, the standard pre-coughing, peaking with the appearance of the conductor. In longer-lasting systons, such as production of a legislative body, the rituals involved in the election procedures may be far more extended.

We will not labour the details of rituals here — the reader will be able to pick out the rituals involved in familiar systons of every sort. We should, however, make one point. Rituals may be effective, may be essential, without us having any clear idea of how they work.

Chapter 119



NO CLOSER TO GOD — Imports, Exports, and Infocap

There is no special virtue in being an exporter — we are no closer to God than the rest of you

— John Hyde [1982]

South of The River; a Silly Story

Dear Diary,

It all started in such a small way. Of course all of us enlightened people who live north of the Swan River in Perth naturally feel a certain amount of pity for those poor deprived souls who live South of the River.

It's often through no fault of their own, just an accident of birth, or perhaps lack of education, which stops them ever climbing out from their humble beginnings.

It's true that until the '60s we NOTRES had the only University in the State, so that every day their ambitious youngsters had to stream across the bridges to get a bit of learning, or else had to uproot and settle, temporarily and uneasily, in the poorest sort of lodgings available among we elite.

But of course those SOTRIs breed like rabbits, and in a spirit of fairness the Government eventually let them open their own university, to cope with their growing hordes as best they might. And it was made clear to them that there was to be no discrimination — their better talents could still perhaps win scholarships to the proper University, and we would at least maintain a token representation in their own new venture. It was the least we could do, to advise them on what to do and exert a little kind but firm supervision of their development.

But of course they weren't satisfied. Before you could say Jack Robinson they had wheedled their way into renaming one of their technical schools as a university, and claimed they had two to our one. As a matter of form we had to do the same, making it two all.

And although the new private university, actually named after us, has started off in Fremantle, everybody knows that Fremantle and South Perth are only notionally south of the river. They are really just NOTRE missionary colonies, part of the white man's burden. Just to be safe, though, the private university is soon to be moved back into our hinterlands, well out of the problem front-line border area.

Faced with a clear 3 - 2 defeat, some of the lower SOTRI elements looked round for something else to complain about. They settled on an easy and emotive target — money.

"Why", they started whingeing, "is it that we have to do all our special shopping in the NOTRE areas? Why do we have to pay them to go to all the best cinemas, to attend all the rock concerts, to see all the new plays, musicals, and overseas entertainers? We are just lining the pockets of the so-called north-of-the-river-elite, all we get is the dirty jobs and smoke-stack industries."

"Our factory and business bosses don't live with the workers, every day they drive over the bridges from their plush north-of-the-river mansions, staying just long enough to retrench a few loyal workers in order to keep their own fat paychecks safe".

It's pathetic, I know, but that's how some of them actually talk and think. They don't show any gratitude for the huge investments we have made in underprivileged SOTRI areas, our efforts to raise their training up to a decent level, our legislation to ensure that their squalid housing at least reaches a minimum standard of hygiene.

Now things are starting to look ugly. The SOTRIs are intending imposing Bridge Entry and Exit Taxes on people moving between the two territories. Even worse, they are proposing to apply tariffs on goods moving south, in order, they claim, 'to protect their own industries from a flood of cheap dumped NOTRE imports'.

And the latest, and perhaps silliest thing they propose doing, is to monitor and control all NOTRE investments in their areas. Their approval will be required for all new investments, they will have special limits on repatriation of profits to the north, and they will be moving to their own currency in the belief that that will save them from the problems which ours is currently experiencing.

It is inevitable and only equitable that we in turn impose stern restrictions on migration of SOTRIs into our territory. If we don't do this, we will be overrun with cheap labour and our own standards of living will start to fall — we certainly don't want to end up with a Wetback problem like they have in the United States.

It is indeed sad to see all this happening. More and more, it starts to look as if Premier Hanrahan will be right. Dear Diary, where will it all end?

Now Let's Be Serious

Yes, you are right, that was a ridiculous idea — it could never actually happen in Perth, could it?

Perhaps not. But parallels to this ridiculous story can certainly be found in real life

everywhere. The underlying points are: erection or maintenance of a system boundary round what you see as ‘your’ people, identifying those ‘outside’ the barrier with other system labels, and seeking to advantage those within ‘your’ system at the expense of the others.

All very natural — Charity Begins at Home, after all.

The Seesaw Quiz

The Seesaw Quiz technique is one which I first noticed used in the seminal British TV comedy series, *Yes Minister*. It was used by Sir Humphrey Appleby to demonstrate to poor naive Bernard that the results of a survey of ‘public opinion’ on a topic were fundamentally different when the survey was approached from opposite extremes.

As an example here, I will apply the technique to the topic of Importing and Exporting goods, from the Australian viewpoint. A series of ‘public opinion poll’ type questions will be posed, and the answers given will be represented on a 7-point scale from highly positive to highly negative. Of course the answers are not actually derived from any poll, they are only my guess at what the majority answers might be in a particular case.

Importing & Exporting: A Public Opinion Poll

	-3	-2	-1	0	+1	+2	+3
	No,	No	Maybe	Don't	Maybe	Yes	Yes,
	No	No	Know	Yes	Yes	Yes	Yes
1. Should Australians be allowed to export?							X
2. Should Australians be encouraged to export?							X
3. Should the Australian Government help exporters?						X	
4. Should exports be subsidized by the Government?					X		
5. Should Australian companies open sales offices overseas?						X	
6. Should they manufacture Australian-designed goods overseas?							X
7. Should Australians be allowed to own factories in other countries?							X
8. Should they be allowed to own holiday homes overseas?						X	

Now run the same sort of quiz in the other direction:

	-3	-2	-1	0	+1	+2	+3
	No,	No	Maybe	Don't	Maybe	Yes	Yes,
	No	No	Know	Yes	Yes	Yes	Yes
1. Should the Government encourage importing of goods?	X						
2. Should ‘dumping’ of cheap foreign imports be allowed?		X					
3. Should Australian industries be protected by import tariffs?				X			
4. Should Australia try to replace imports with local produce?						X	
5. Should we try to finance developments from local funds?						X	
6. Should Indonesians be allowed to own holiday homes in Australia?				X			
7. Should Australians be encouraged to holiday within the country?							X
8. Should the Japanese be allowed to buy up any property they like in Australia?		X					

Now maybe the suggested results which might be obtained from such a quiz are a bit out. And of course results from such a quiz may be different in the future. But the general tenor of the results is probably not contested — things which are seen as desirable for Australians to do vis-a-vis the outside world are seen as undesirable for the outside world to do vis-a-vis Australia.

Logically this is hard to defend. Why should Exporting be viewed as Good, and Importing Bad? If you step over a national border, with various title deeds and bank deposit statements in your pocket, should your whole philosophy change as you do so?

MT does not venture to state that anything is Good or Bad. Its comment on the matter of imports and exports would be that all restrictions to trade flows would be likely to disadvantage those imposing the restrictions. Such restrictions would therefore be undesirable unless Asking Question One — “Are the restrictions on the grounds of attaining threshold health or safety levels?” — gave a ‘Yes’.

The value of setting up a Seesaw Quiz is that it allows you to localize and identify what system you are standing in. The example just given is a fairly loosely-structured one.

Suppose we re-ran the last question, on permitting ‘foreign’ ownership, in a closely-graduated sequence, and said “Who should be allowed to buy a house in Perth?”, with a series of answers graduated from ‘Anyone in the world’, through ‘Europeans’; ‘Asians’; ‘Asians married to Australians’; ‘Australians living overseas’; ‘New Zealanders’; ‘British with right of residency in Australia’; ‘Children born in the US of Australian parents/ with one Australian parent/ with one British parent who lived in Australia for 30 years but died in 1940’; Thursday Islanders with one parent from New Guinea; a Filipino fathered by an Australian serviceman; someone born on the Cocos Islands to Malaysian parents; someone from Tasmania; from the Kimberley; from South of the River.

In Chapter 111 the difficulties of deciding who was a ‘foreign’ owner were pointed out. Setting up the Seesaw Quiz on permitted foreign owners also brings out the decision difficulties. But an important point about the technique is that running the quiz from different ends is likely to give different results. Starting from the ‘obviously yes’ end, and getting more and more uncertain, will delay slamming down the drawbridge to a point much further on, than the point of raising it for candidates increasingly easier to accept.

There is a general MT inference which can be drawn from this situation:

Proposition 119A.** *No system boundaries are completely sharp, instead they are only profiled barriers*

This brings us to the point where we can improve the detail of our Matrix model.

Back To the Atom

Right back in Figure 101.1, the first diagram in this book, we showed various ‘models’ of the atom. These ranged from the undefined round objects envisaged by John Dalton, through the planetary and shell models developed when research identified the electrons and nucleus which made up the atom, and ending with an ‘electron density’ image. In this last model, (d)

in Figure 101.1, the electrons are represented as ‘smeared out’ into a probability cloud, where the density of the cloud is indicated by contour lines.

This particular image is taken from a detailed structure determination of the mica mineral muscovite. The full determination is shown in Figure 119.1, which is from Zvyagin [1967].

Mica minerals have pronounced layer structures, which is why they can be split easily into very thin sheets. Before heatproof glasses were developed, windows in ovens and stoves were made of thin, transparent sheets of mica rock.

Structures like this muscovite one are worked out by subjecting the specimen to a high-energy stream of electrons or x-rays. Individual atoms in the specimen deflect or scatter the stream according to the extent of the electron clouds around them, and this can be used to build up pictures of the electron clouds themselves.

In the picture, places where the electron-cloud contours are numerous and closely-packed represent heavier atoms with lots of electrons. These are like tall, thin hills, but the contours represent electron density rather than height.

On the other hand, light atoms with fewer electrons show up with fewer, more widely-spaced contours, like small, low hills. The analogy is not exact, because the electron-density image is actually a projection of the electron clouds of the various atoms from a given viewpoint, perhaps across the layers. If viewed from a different angle, say along the layers, the projected image would be different.

Notice that some of the images are run together, appearing as pairs or groups of hills instead of isolated peaks. In some cases, this is only a projection effect, showing one atom standing behind and to one side of another. But in others, the atoms are actually very close and touching, so that their electron clouds are somewhat merged or shared. This electron sharing is, of course, the basis of chemical bonding.

Infocap Density Clouds

Earlier the analogy between atoms and systons was mentioned. In a further analogy, we can depict the infocap which systons contain in a similar way to that used to show electrons in mineral structures, as in Figure 119.2.

The intention of this figure is to give a visual grasp of infocap contents in Britain, Australia, New Zealand, and Japan, plus the role of infocap in relations between these four countries. This example has been selected because the geographic outlines of the four countries give an immediate grasp of the players involved, which helps to introduce the concept. The infocap blobs within the individual countries are not intended to accurately reflect the geographic boundaries.

Features of this infocap-density image are as follows. Australia has internal divisions

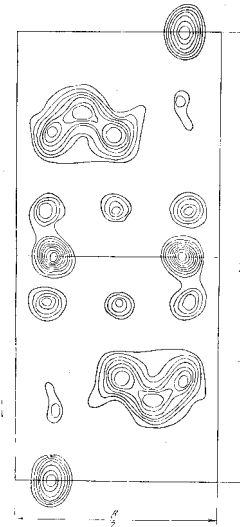


Fig. 119.1. Projection of the muscovite structure on the 0yz plane



Fig. 119.2. Infocap density gradients for the UK-Japan-Australia-New Zealand grouping

based on state boundaries. Some contour lines surround the whole country including Tasmania, inner ones exclude Tasmania. New Zealand has a distinction between the North and South Islands, but lies within a common contour envelope with Australia.

Britain has its own internal divisions, and also lies within a shared, but lower, contour with Australia and New Zealand. It shares only its lowest contour level with Japan. Japan looks different — it has a lot of closely-packed contours. This implies that Japan has a high infocap content, and also a thick, impermeable syston skin cutting it off from the rest of world.

There are no numbers on the contour lines, we do not yet have units in which to measure infocap. Of course, this figure is only the first attempt at setting up an infocap-density model, it could stand a lot of refinement. However, it can give an accessible visual representation of data which would be much less accessible in the form of pure numbers and tables. It can be expected to be fundamentally better than the latter, because it is a 2-dimensional representation, and so can carry a much greater information flow than a zero-dimension quantity like a number.

Don't Fence Me In

The infocap-density image also gives a further insight into the actual nature of syston skins. It would seem that these skins may actually be describable in terms of infocap characteristics. The suggestion is that syston skins are made up of steep infocap density gradients, that is, places where the infocap density changes rapidly over a short distance.

Proposition 119B**.** *Syston boundaries consist of steep infocap density gradients*

As an example of this, look at Japan in Figure 119.2. Anyone who has had extensive

dealings with Japan will know that Japan is ‘different’. The inhabitants use a language and script which is both complex and not closely related to any others. Many would say that the social patterns, and even the thought processes, of the Japanese are quite hard to grasp for an outsider.

This situation is rather different to that with, say, one of the tribal peoples of the Amazon Basin. These people might also have a language which was difficult for an outsider to grasp. But the vocabulary of this language would be only a tiny fraction of that of Japanese, and their social patterns would also be far less complex.

In MT terms, the infocap content of the Amazon system would be much less than that of the Japan system, and so it would appear on the infocap-density image as a much flatter hill. Another way of looking at it would be to say that synergy flow into and out of Japan is impeded by a very steep system-boundary barrier.

It may be that in the future we will be able to examine such matters in more quantitative and analytical terms. An infocap-density gradient of the steepness currently possessed by Japan may be very close to unstable. In this case, the accumulation of more infocap by Japan could lead to ‘slumping’ of their whole hill — perhaps a theoretical description of increasing distribution of Japanese capital funds overseas.

A possibly more powerful visual image is to think of a country-system like Japan, not as a simple round mountain, but as a volcanic cone. The lava it contains, its infocap, can only build up so far inside the cone. If lava accumulation continues, inevitably it will eventually either overflow the lip of the volcano or will break through its walls and flow down the lower slopes. In either case, the result is a wider, perhaps lower, profile in which the slope gradient will not go over a given steepness.

What’s Wrong With Hydroponics?

Growing plants hydroponically, that is, using not soil but an inert water-based medium, can be quite an efficient means of production. But it does have a number of practical drawbacks.

The plant nutrients required may be carefully calculated and supplied to the plants at the right time, but it is easy for things to go wrong, so the growth achieved is not what was expected. The plants may even die. Diseases can be a real problem, with the ability to sweep right through the operation in spite of stringent routines for hygiene.

It seems that the ‘root’ of the problems encountered with hydroponic production lies, not with doing anything wrong, but rather with the need to do a great many different things right. A hydroponic system does not have the resilience, the ‘forgivingness’ of a natural soil-based system. Instead, it is close to what physicists call a ‘meta-stable’ system, like a ball lying on the very top of a hill. Only the slightest breath of wind is needed to nudge it over to the point where it will gather speed and run right down the hill. Left in the valley bottom, however, it is in a stable position. If a breath of wind blows it up the slope, it will soon roll back to its original position.

It is no secret that the lack of stability of hydroponic systems is often tied up with their lack of buffering capacity. The inert materials, such as rock wool or gravel, used in place of soil do not have the same capacity to absorb excess nutrients or heat and give them out again when

in short supply. Even at higher theoretical levels, there may be inadequate buffers; hydroponically grown plants are usually all clones or genetically very similar, and if a disease strikes one, in its precisely-controlled state, it will hit the lot, all existing in the identical state.

So here the buffer missing is a bit of genetic diversity, or a range of variation in physical conditions. This diversity has a cost, the buffer capacity needs paying for. In a good hydroponic setup, only the exact amount of chemical nutrient required will be used, with no costs for overfeeding or leaching. But to go this route does mean walking the tightrope.

From the MT viewpoint, a buffer represents an investment of infocap. At first sight, it might look like redundant or unused infocap. This applies at every system level — why do we teach so many of our children a foreign language in school, for example, when for most it would appear a waste of resources? Very few of them will actually use the language in their jobs.

The MT answer is the same as always. Teaching the child a foreign language increases the infocap stores of the individual and of the system which contains it. This will make the system more diverse, and hence more stable.

Proposition 119C**. *A system with extensive buffer capacity will be more stable than one without*

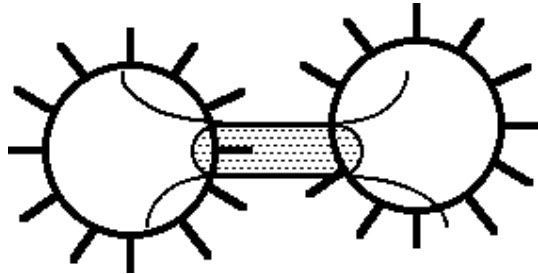
This Proposition does not seem particularly controversial, but it is one often in conflict with conventional thinking. There is seldom a distinction between putting resources into buffers, and wasting resources.

Most research fund committees, for example, watch very carefully to guard against ‘duplication of research’. Before you get the money to research the structure of muscovite, for example, you would need to show that a thorough literature search gave no evidence that it had already been done. “No sense in re-inventing the wheel”.

There is sense in this, but it can be overdone. The basic drawback of this approach is that it assumes that Researcher A is identical in performance to Researcher B, and this is not necessarily true. Worse still, it disregards the possibility that Researcher B will notice some side aspect of the research process which may turn out to be far more important than the original objective. Start off to invent a wheel, and come up with a ball-bearing, perhaps.

There is a virtue in redundancy. Perhaps the final word here may come from our genes. Of the genes contained in human DNA, some 80% appear to have no purpose whatsoever — the so-called ‘junk genes’. It is these self-same ‘redundant’ genes which may keep the human race stable in the face of unknown factors, today and in the future.

Chapter 120



DON'T TELL ME ABOUT IT — Arms-lengthing

“When the system is operating perfectly, no decision need ever be made”
— Sir Arvi Parbo, Chairman of BHP, 1991

The Barbados Telephone Directory

The Barbados telephone directory has an unusual feature. It lists people with silent telephone numbers.

Of course it doesn't list their actual numbers, if it did they wouldn't be 'silent'. Instead, it gives their address as normal and a note about their number, for example:

Rampton, Mrs P....The Villa, Plantation Rd BridgetownSilent Number

What is the point in this? The thing is, the Barbados telephone company is giving you some information, but not all. First off, you know Mrs Rampton exists and has a telephone. Then, you know where she lives, so you could write to her, or, if it was an desperate matter, you could travel over and knock at her door. If you were ingenious you could maybe locate one of her friends and ask them for the number, or ask them to pass a message on to Mrs Rampton to phone you urgently.

So there is enough information available for anyone needing to contact Mrs Rampton to do so, but not enough for anyone completely unknown to her to ring up and annoy her at will.

Tell Me EVERYTHING

People often assume that the more they know about a problem or situation, the better they will be able to handle it. Often this assumption turns out to be quite unjustified.

First there is the matter of information overload. This can be a problem with many computerized information search systems. If you choose your topic and put in a request for a listing of all documents on that topic, you may be stunned to receive a document several

hundred pages long to plough through — and that is just the references to the documents, not the documents themselves.

This problem can be alleviated, but not eliminated, if the search system is an on-line one. If your first request merely tells that the system knows about 15,000 publications which refer to your topic, you can try and define your topic more and more narrowly until you reduce the number of documents to a manageable number.

There is a real skill in this, and inevitably even the best searcher will eliminate some references which might have been useful, and end up with some 'false drops', items which appear to refer but are actually irrelevant. Once I carried out such a search on 'edible nuts' and ended up with several references to doughnuts.

But more important than this, is when you end up knowing more than is good for you.

Ignorance is Bliss

Computer programming is one of the basic information sciences, and its development and evolution has taught us a lot about how people think and how information may best be handled. A great deal has been learnt, not just about the actual techniques of programming and system design, but also about ways in which huge developed software packages or 'suites' may fare in a real and changing world.

Out of this experience has come the technique of 'Information Hiding'. This is a technique where the person or team programming one module of a large package is not allowed to know about the inner workings of other modules. They are told what sort of information will come into their module, what the module is supposed to do in processing it, and what sort of information is to be passed on to other modules or outputs in the system.

Computer programmers include some of the most creative, eclectic, and eccentric individuals in the world, many of them live far out on the fringes of the Matrix. Computer programs are in a class like nothing else previously developed by man. Some of the more complex ones do approach the status of being living systems, of representing simple non-biological systems.

In some ways, a computer program can be thought of as a snapshot or projection of part of the mind of a programmer. If the programmer never thinks about people with Asian names, his program may not be able to cope with them satisfactorily. Hence the story about an Arab student in an American college, the enrolment system processed and transliterated his details in the prescribed manner, thus reducing his name to just a comma.

I once attended a talk given by a computer company programmer who had written what was called a Cobol Compiler — this was a program used by the computer itself to convert a program written in the Cobol language into that used internally within the computer. The interesting thing was that when the speaker talked about how his compiler worked, he referred to the program, not as 'it', but as 'I'.

Time is of The Essence

In Chapter 105 I mentioned the struggles of programmers in working with limited resources, such as small computer memories. When interactive graphical programs, for

example video games, were being developed, one of the real limitations was in response time. Images on a screen had to change at a rate comparable with the users' response times, else they would walk away from the excessively slow program in disgust.

To get the required response times, programmers would take liberties with their programs. Instead of restricting these to the 'authorized' facilities in the manuals, they would make little raids into unauthorized, private parts of the machine operation. If they were writing a program in a high-level language like Fortran, they would add in little subroutines in machine language which would dive in and out of the operating system, where Fortran was not allowed to go. Also, any real computer has features which are not specified in the manuals, little tricks by which things can be done more quickly, but not according to documented facilities. Programmers would find out about these undocumented features and use them.

In a way it was like somebody who wanted to get the freshest bread, and who found out that if he waited at traffic lights near the bakery gates at a certain time, he could pull a hot loaf out of the back of the bread delivery van and replace it with the money, while the driver had turned his head to watch the girls going into the high school. Effective, and probably not illegal — assuming the driver was just going to sell the bread on his rounds anyway.

But all things change, and while computer manufacturers and programmers exert some effort to make their products transferable to improved equipment ('upward compatible'), these efforts do not extend to 'undocumented features'. The bread company was under no obligation to see that its new delivery van had its doors at the back, like the old model, and not at the side.

The result of this situation was that even though the programmer might have built a program which was quick and effective, that program would be very vulnerable to incidental changes elsewhere, as when the operating system was patched or a new disc drive was added. If the programmer had stuck simply to writing his program on standard lines in the authorized language, then his program would have been stable and should have worked through whatever upgrades were made to the equipment, the operating system, and the program compiler.

Hence the need for 'Information Hiding' in programming practice. Don't tell the programmer what other parts of the system are doing — or at least force him to ignore what he knows.

Only Touch it with a Barge Pole

In the legal profession, and now in many other areas, transactions carried out between two parties who are at pains not to have connections, other than those needed for the transactions themselves, are said to be operating 'at arm's length'.

It seems to me that such a principle of insisting on 'arms-lengthing' of operations could be a very valuable feature of MT designs. In Chapter 116 it was mentioned that arms-lengthing was one of the principles consciously used in designing the United States Constitution, under the heading of 'Separation of Powers'. It would be the MT view that this principle would be a significant reason for the subsequent achievement of pre-eminence by the United States.

The same principle has been called for in many other places. The usual requirement is to avoid 'conflict of interests'. Thus, in town and shire councils in Australia, councillors are

required to declare 'their interest' in matters under consideration by the council, and not to vote on such matters. Perhaps this might involve a councillor who owned property in an area due for rezoning from residential to commercial, which might increase the value of the property.

On the personal level, such conflicts of interest are common and can lead to moral dilemmas. A businessman who owns a small manufacturing plant might have to choose between two alternatives, one of which would benefit his company to the detriment of his family life, and the other the converse. A Minister in a state government cabinet position can be pulled many ways — between the perceived good of their Department, of the Cabinet as a whole, of the Government, of the State, of their State Political Party, of their national Political Party, and, of course, of themselves.

All these examples are actually examples of conflict of interest between systems. The MT response to this situation is to suggest that the first thing to do for the party involved in the conflict is to identify the systems involved, and then determine which system they are supposed to be standing in. They can then act in the interests of that system.

This sounds a simple enough move, but in practice is much easier said than done. Suppose a state cabinet minister believes a certain action will be to the benefit of the State, but if implemented, will most likely lead to their party losing power at the next election to the Opposition Party, which would *not* be the benefit of the State, let alone themselves. What should they do? Another major problem, where there is inadequate arms-lengthing, concerns corruption, personal fallibility, and uncertainty of conditions. Let us look at a real example.

The Black Hand Strikes Again

Look at the following news item, relating to business migrants to Australia (Figure 120.1).

New laws to cover business migrants

By STEVE MANCHEE

CANBERRA: People entering Australia as business migrants under a new business skills category will have three years to prove their expertise or have their status cancelled.

Immigration Minister Gerry Hand announced the new independent-business skills category yesterday and said migrants would be extensively monitored and fined if they failed to comply.

The category, to begin in February, introduces tough new entry requirements based on proof of past business prowess and a rigid points test.

The new system replaces the business migration program which was scrapped earlier this year after recommendations by the joint par-

liamentary public accounts committee.

Mr Hand said new legislation, which amends the Migration Act and allows him to cancel the status of business skills migrants within three years, would be introduced soon.

The legislation would also make it mandatory for entering migrants to take part in the monitoring system, he said.

Applicants will be points tested and graded on the turnover of their business, age, English language skills and capital backing that can be transferred to Australia.

Mr Hand said migrants who had

a business background useful to Australia in manufacturing, trades and the development of innovative technology would gain more points.

"The new category will inevitably mean that some business skills applicants cannot pass the tighter selection criteria," Mr Hand said.

A new independent panel will be set up to help the Immigration Department vet applicants. It will include business community experts and Federal and State governments.

Since the business migrant program was introduced by the Fraser Government in 1981, it has been marred by allegations of organised crime, rorting, tax evasion and money recycling.

Fig. 120.1. News item from 'West Australian', 1991 December 18

Let us put aside for the moment the view that the action described in the article is the most crass and linear-thinking approach, certain to scare off any prospective business migrant who might consider investing half a million dollars in Australia. Instead, pull back and look at the article with MT eyes.

There are these people who currently live outside Australia, and who might want to migrate to Australia, right? There is a particular Person in Australia who will have his representatives look at such people, investigate the accounts of their businesses to check turnover, look at their birth certificates to check age, see how well they speak English, and check their bank statements to see how much money they have, OK?

If this Person in Australia likes what is found out about a particular Applicant, he may write 'Possible' on his belly and let him into Australia. Then, for the next three years, this Person will 'extensively monitor' the Applicant and fine him if the Applicant does something the Person does not like. And if the Applicant doesn't do something the Person thinks he should, the Person just writes 'Reject' on the belly of the Applicant and on those of his family, and sends them all back where they came from. But first he deducts the money for their fares from their bank accounts, most likely. Have I got it right, now?

It's Too Dreadful to Even Think About

The situation just described would be widely condemned as unfair, unworkable, and acting against the interests of all concerned, even from a conventional view. From the MT viewpoint, too, it has everything against it.

First, there is a total lack of arms-lengthing. One person within Australia is responsible for deciding, on a day-to-day basis, the thousands of tiny details of the treatment and fate of large numbers of other human beings, decisions which could be made purely by whim and without appeal.

Then, there are all the possibilities for Things to Go Wrong with the process as set up. Corruption and bribery are clear possibilities, Mr Hand himself may be totally incorruptible, but can he guarantee that all his agents, and his successor, will also be?

And again, it does not have to involve money, just prejudice. If the father of one of Mr Hand's agents died in a Japanese prisoner-of-war camp in Burma, is it not a possibility that this agent might 'exercise his discretion' and give a Japanese applicant rather lower marks than might be awarded to a Norwegian?

Finally, there is the uncertainty of it all. There are no clearly established, written, independent, repeatable procedures to go through, no definite and obvious benchmarks to be attained. Groucho Marx once said that he wouldn't want to belong to any club which would accept *him* as a member. I would think that the financial competence of any businessman who would be willing to put half a million dollars or so into such a risky migration assessment would be under such doubt as to rule him out automatically.

Tell It to Me Straight

Recent revelations on the operation of the White Australia policy in former years have been very sobering. Former immigration officers have recounted how 'black-balled' applicants

were simply ruled out by repeated application of the European-language dictation test. So, if the applicant passed the test in Spanish, they would be given the one in Dutch, and if they passed that, on to Finnish, Romanian, Greek ... Who could survive such tests? No-one.

There is still a perception, particularly in Asian countries, that a covert White Australia policy operates. Australia has many migrants from southern Africa, but I have yet to meet a single one who is black. There is still a perception of bias in immigration, a perception which experience tends to support. Such a bias may be normal — SIOS appears everywhere — but it is not likely to diminish unless the rules are clear, open and unbiased and their operation is divorced from personal prejudice.

Save Me From Myself

There is another aspect of this problem. It would be an MT assertion that lack of arms-lengthing in its operations will disadvantage a system. But what about the people involved in a conflict of interests? Is it fair that they should have to make heart-rending decisions? Is it good for their system if such dilemmas are widespread?

There is currently some controversy in Perth over the role of the Perth City Council, which has oversight over the central business district and a few, not all, of the suburbs. The Lord Mayor has complained that with the large number of councillors and the complexity of decisions, everything is slowed down and many useful projects are just stopped in their tracks by the inertia of the current process.

In an ideal world, city councillors would not need to make decisions, the situation outlined in the quotation at the head of this chapter would be attained. There would be no conflicts of interest, no need for councillors to 'declare interest' and withdraw, no discussions on whether this project or that project should be 'allowed'. Only application of the rules would be needed.

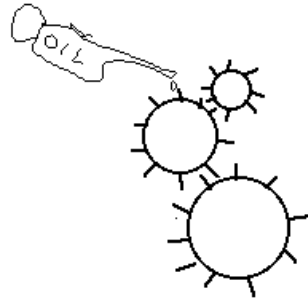
Of course, we are not in an ideal world, and any given current set of rules would need amending in the light of future changes. But it would be possible to work towards establishing such Rule Structures, to work to make them continually more simple, wider of application, more varied and open to voluntary adoption as Rule Structures, and subject them to continual refinement and testing. That is what MT design is all about.

In summary, this chapter has presented logical reasons why arms-lengthing is good for society. It has been suggested that it reduces the possibilities for corruption and for bias, eliminates the stress on individuals having to make difficult decisions, and forces the clarification of the rules so that they can be operated at arms length, rather than decisions being made 'on the run'.

We can note that rule clarification and stabilization implies a decrease in uncertainty, and hence an increase in infocap. In assembling the only Proposition of this chapter, we can forget the reasoning which has led to it, and present it purely as an item for testing.

*Proposition 120A***. Arms-lengthing of the interaction of its systems will advantage a system.*

Chapter 121



PICTURE THIS — Tools of Matrix Thinking

“A wise man will make tools of what comes to hand”

— Thomas Fuller (1732)

Tuning up the Intellectual Engine

Up until now in this book, we have concentrated on designing and assembling the intellectual engine which is called Matrix Thinking. Now let us take some time out to look a little more closely at some of the tools and techniques which can be used to keep this Engine operating at high efficiency.

Most of the efforts involved in applying MT can be classed as either Analysis or Synthesis. Analysis is essentially the taking apart of an existing situation, to see what is happening within it. Synthesis is essentially the design of a situation which does not yet exist, often using information gained from a previous analysis.

Nevertheless, in practice there is not a clear boundary between these two operations. Synthesis can be applied to generate a projected situation, and then analysis can be applied to test it. And when working in an MT environment, much of the synthesis can be sucked directly out of the Matrix and then tested, rather than coming from a previous analysis.

Picture This . . .

A common ground in the application of MT is the use of what we can call ‘scenarios’. This word is used in the conventional sense of a picture of a situation, but is extended to cover the description of functioning parts of the Matrix at any level — not only the interaction of groups of human beings in particular environments, but everything from cosmology of the whole universe down to biochemical interactions in an animal.

So a scenario may be the same thing as one of the ‘mind models’ mentioned earlier in this book, applied to a physical situation. In most examples which follow, ‘scenario’ will have its familiar use of a situation in human society. But the term will be applied both to a projected or envisaged situation, and also to an existing one — we can apply ‘scenario matching’ in building up a picture of what is happening somewhere now, or even in the past.

The general technique is to put together a scenario for a particular situation, identify its parts and elements, and then try to refine the picture with more detail until the scenario matches reality to the accuracy desired. The first elements to be identified are the systems.

We in Indonesia

Indonesian has two words for ‘we’ — and they mean different things. For a native English speaker, the fact that there can be more than one meaning is perhaps surprising.

One of the Indonesian words, ‘kami’, means ‘we, not including the person addressed’, as in “we will never yield to your demands”. The other word, ‘kita’, includes the person addressed, as in “shall we go down the pub now?”.

In English, ‘we’ encompasses both meanings. The Indonesian distinction makes it easier to know who are the actors referred to, it makes it easier to determine the systems involved. The first step in building any MT scenario is to identify these systems.

MT Checklist # 1. Attempt to identify the systems involved

In the last chapter, we mentioned the different pulls exerted on a Minister in a state government in making a decision. Identification of the sources of these pulls is an example of system identification, and realization of ‘which hat was being worn’ should be an aid to making a decision.

The next thing to do is to check the identity of these systems by consciously moving out to wider systems, and in to narrower ones, to check your true position.

Tag and Label Testing

Often the system you are really standing in can be localized by deliberately applying tags or labels which are normally applicable, but in distorted form, as wider or narrower systems. Consider the following quotation:

“My only regret is that I have but one life to give for my suburb”.

Here is a quotation which has been made ridiculous by shifting the system involved from ‘country’ to ‘suburb’. In developing a scenario including a chauvinistic group, the true bounds of that group can be worked out more exactly by seeing where the tag would still probably apply. Sometimes the result may show that you are standing in quite a different system to that initially assumed.

Another system-shifted tag:

“The United Nations yesterday voted to continue the prohibition on selling packs of red meat weighing more than 500 grams in Western Australia on Sundays”

Now don’t laugh, there is genuinely such a regulation in force in Western Australia — a

territory the size of western Europe. What makes the tag ridiculous is the fact that the United Nations is involved. The result of this tag-shifting is to suggest that such matters be left to much more localized bodies — Ask Question Four.

MT Checklist # 2. Verify a system by shifting to narrower and wider systems to see whether tags and other features still apply

What Far Boundaries?

The next technique involves localizing the cut-off levels for a supposed system boundary. In Proposition 119A it was suggested that no system boundaries are completely sharp, instead they are profiled — a hedge rather than an infinitely thin metal sheet.

A good way to localize system boundaries is to devise various Seesaw quizzes, as in Chapter 119. By running them in opposite directions, some compromise value may be agreed on.

MT Checklist # 3. Use Seesaw Quizzes to localize system boundaries

There is a background observation here. If it proves very hard to localize a system boundary, say if it is very hard to decide whether particular people should be allowed in a group, this may imply that there is no justification for having a boundary at all.

Proposition 121A.** *If a system boundary cannot be easily localized, there may be no purpose in establishing it*

A Glass and a Half of Full Cream Milk

Readers may remember that brilliant science popularizer Professor Julius Sumner Miller, known also in some quarters for his advertisements for a brand of chocolate. In his analyses of scientific phenomena, Professor Miller had a regular question — “Why is it so?”.

In the MT toolkit, we can use two similar questions to advantage. The first is, “What is it for?”, and the second, “How can we use it?”. We will list these formally and then look at some examples.

MT Checklist # 4. Ask “What is it for?”

MT Checklist # 5. Ask “How can we use it?”

A Matter of Fingerprints

Everybody is familiar with human fingerprints. Most people will know that they are distinct for every individual, no recorded case is known of two people having identical fingerprints, not even identical twins.

The use of fingerprints to establish the identity of criminals is well known also, and perhaps their use just to verify identity, as in a security system. Those with a deeper interest in this field

may know that the different patterns of whorls and loops also give some racial information — for example, African pygmies tend to have more complex patterns of whorls than Europeans.

Nonetheless, even in quite technical treatises about fingerprints, a question seldom asked or answered is this: *What are fingerprints for?*

Actually, that isn't a particularly hard question. The answer is almost certainly that the raised skin ridges which form fingerprints enable the owner to distinguish surface textures. If one surface feels like velvet, another like sandpaper, what that really means is that nerve endings in the fingertips send different and distinctive messages to the brain when the fingertips are passed over differently-textured surfaces.

Right, that answers what fingerprints are for. We can look a little closer at the mechanisms involved, and deduce something else about them. If fingerprints are to be effective, the separations between adjacent skin ridges must be fairly uniform, else the nerve messages sent on touching would be too mixed up and irregular for the brain to make sense of. And indeed, if you look at a particular set of fingerprints, you will see that adjacent skin ridges have similar separations, even on different fingers.

There is a case where this uniformity breaks down. Another thing about fingerprints which is taken for granted is that they do not change as an individual ages. In particular, a baby will have the same fingerprint patterns as the adult they will become. This means that the average separation of the skin ridges will increase as the child grows and the fingers get larger.

That brings us to the second question, *How can we use fingerprints?* We already have some answers to that, but suppose we look for a further answer, dependent on the further information we have just extracted. A possible answer is, that children can be used to detect surface texture differences which are too fine for an adult to be able to distinguish — “as smooth as a baby's bottom”.

Now that was a fairly simple example, nothing particularly to do with MT, to illustrate the technique of asking these two questions. The first question is used in an analysis phase, the second in synthesis mode. Let us turn now to some more complex examples, one perhaps trivial, the other more profound, in the area of MT analysis.

Why Women Nag

Why do women nag? Here is a question which perhaps Professor Higgins had not been enmeshed enough to come to, but in one of the sequels to *My Fair Lady* he could be expected to voice it. What do I mean by ‘nagging’? I mean the continuing repetition of some admonition or desire by a woman, intended to drive an associated man into a change of behaviour or completion of some action.

We will not enter here into an argument as to whether nagging is confined to women, other than to note that a man who does nag is apt to be referred to as ‘an old woman’. Instead, we will return to the original question, and ask why it happens at all.

Here is an area where conventional linear logic is stumped. Nagging is, by definition, ineffective. If it was effective, it would not need repeating. Q.E.D.

Now apply MT techniques, and ask, not ‘why?’, but ‘what is it for?’. Here is a possible MT answer. Looking around the world, I notice that with modern life expectancies, men have

enough ‘juice’ in them to be able to raise two families, one after the other.

Now that is a situation which MT would see as advantaging the wider system. It involves greater diversity, greater infocap accumulation, not only in a genetic sense, but also in the extra synenergy flows generated — two crops per year instead of one. Two women are cycled through the child raising/education/release business per man, or, conversely, a more diverse set of children may be raised with two males rather than one.

All right, I accept that this suggestion displays a heartless lack of sensitivity to real marriage problems of the day, one with no moral backing. But it is not me suggesting this, it is MT.

So the sobering MT conclusion is that women may nag because that tends to drive their man away from them, tends to cut off the synenergy flow and harden up his idiosystem boundary, ready to try again with another, currently more appealing female idiosystem. Love is better the second time around.

If there is any validity in this suggestion, it is a clear illustration of Proposition 114B on movement of infocap across system boundaries. What the woman does is bad for herself, but good for the wider system. In other circumstances, such a sacrifice might be seen as noble or philanthropic.

Why People Die

Here is a topic in which most people have an intense personal interest. Modern times have seen major increases in life expectancies for many groups. But there is an exception.

That exception is for people who are very old, approaching the century. The life expectancy of the average Australian 99-year-old has actually decreased in modern times, and the same thing has happened elsewhere. This can be understood — modern medicine is ‘propping people up’ for far longer than it used to, and so getting more over progressively higher barriers — but only just.

So although life expectancies have been increasing, what might be regarded as the maximum possible lifetime has not. This figure is around 120 years, and evidence from past ages suggests that the very rare long-lived individual of twenty centuries ago could approach this same figure.

Why do people die? The physiologist might respond that the various parts of the body just wear out. That answers the question for the individual, but not for the system, not for society.

After all, there is nothing physically impossible about longer average lifespans. Tortoises can manage 200 years without difficulty. So we might apply MT and ask what the limitation in lifespan is for, what it does for the system, rather than the individual.

Clearly it is not a matter of conventional efficiency. Perhaps 20 years are spent on educating and training a new individual, it is wasteful if all that effort pays back for only 40 years instead of 80. Instead, the MT answer may lie in cycle times, in half-lives, not of people, but of processes.

It is a characteristic of individuals that they resist change, particularly as they get older. If they get to the top, they want to stay there. Older people cling to the position they have reached, and often it is only a general regulatory retirement-age scythe, or decreasing physical or mental

health, which cuts them off.

From the MT viewpoint, change represents infocap flow, and so will benefit the wider system. System dynamics will therefore sweep away the individuals who oppose change, by one means or another, because it is to the longer-term benefit of the system to do so. This is relevant to the limitation of the term of the US President, mentioned in Chapter 116.

From another angle, later in this book we will see that the time from appearance of a fundamental new discovery in science, to its general acceptance and use in society, is very close to 40 years. I do not believe it is purely a coincidence that this period is also the average professional life of a working scientist.

Hence the MT conclusion is that it is better for society if people don’t live too long. It may be depressing, but this conclusion would imply that all the work done on increasing life expectancy, on the search for immortality, is likely never to achieve a major breakthrough. Solve one problem, cure one disease, and another system-generated killer will come into play. Perhaps the best way to play it, is to look for ‘quality of life’ — keep strong and healthy till the eighties, then pop off overnight.

The Case of the Vanishing Vaporware

Enough now of establishing the where and what of systems, we can move on to questions of what’s inside them and how the bits work together. The first thing to look at is the infocap content.

MT Checklist # 6. Check the infocap content

The infocap content of a system is similar to the capitalization of a business, and has a similar effect on its viability. But infocap, as mentioned, is not just money, but can include all sorts of other intangible assets.

With a professional pop group, for example, there are all the usual matters of cash flow, and assets in musical instruments and vans. There is also infocap content in skilled management and contacts, and in musical competency of the members of the group. And there may be infocap in more tenuous things, in the ‘charisma’ of the lead singer, in the ‘luckiness’ of the agent.

In the area of computer packages, matters of publicity and sales networks can be very important, as well as the usual software competency and hardware suitability. Realizing this, a major US syndicate once put together a brilliant marketing and publicity effort for a forthcoming package.

Unfortunately, they neglected a vital part of the infocap content, the actual writing of the necessary programs. As a result, the whole effort fell in a heap. The trumpeted announcement of new software packages which fail to ever appear is not unknown in the industry — such packages are referred to as ‘vaporware’.

Is It Alive and Ticking?

Another thing to check is whether the required synenergy flows are present — are the

physical and organizational communication lines open, are the motivational and reward aspects there.

MT Checklist # 7. Check the synergy flows

Are the Rule Structures Developed and Known?

The next thing is to check whether the Rule Structures within the system are developed and operating. Sometimes these are clearly apparent, as with a country-system's jurisdiction, in other cases they may be unwritten.

Rule Structures are dealt with in Chapter 112 and mentioned in many places subsequently in this book.

MT Checklist # 8. Check the Rule Structures

Look at the Buffers

In the run-up to the 1992 US Presidential election, non-party candidate Ross Perot did not have clear policies, although he did advocate change. One radical suggestion which he did adopt and promote was the idea of dispensing with elected members of the legislature, and instead have arrangements for unlimited 'telephone referenda', in which the people could decide on issues themselves, instead of leaving it to their elected representative.

On the face of it, this is an attractive idea. Anything which allows people to have a greater say in the rules and regulations under which they live must be regarded as an increase in democracy.

However, an MT analysis of this proposal would probably give it the thumbs-down. The reason is nothing to do with preservation of the status quo, there is nothing in MT to support this. It is because the suggested telephone-referendum approach would lack buffer capacity (Proposition 119C), and hence might be less stable.

Making changes to the law can be a long-drawn out and tortuous process. We could say that it involves putting input (a 'concept-ball' or 'memon') into a large and complex infocap/synergy buffer (the legislation-vetting process), which it will take some time to work its way through. Many of the memons will be totally consumed in the buffer, and never work their way out at all. Of the ones which do survive and emerge, almost all will be appreciably beaten-about and modified in the process.

The Perot proposal would largely eliminate this buffer, it would be 'instant' legislation, perhaps done in the 'heat of the moment'.

MT Checklist # 9. Look at the buffers

Look at the Arms-lengthing

The importance of arms-lengthing has been covered in Chapter 120. There it was suggested that arms-lengthing reduces the possibilities for corruption and bias, eliminates the stress of difficult decisions or dilemmas, and forces the development and refinement of the

existing Rule Structure.

MT Checklist # 10. Check on the arms-lengthing

The Four Questions of Government

The Four Axioms of Government and their associated Questions have been covered in Chapter 116. We will add these to our checklist all together.

MT Checklist # 11. Ask Question One: "Is the activity designed to directly achieve a threshold level of health or safety in the system?"

MT Checklist # 12. Ask Question Two: "Is the activity designed to directly raise the level of infocap in the system?"

MT Checklist # 13. Ask Question Three: "Is the activity a minimum taxing of system synergy needed to carry out Tier One or Tier Two activities by the system?"

MT Checklist # 14. Ask Question Four: "Is the activity being organized in the narrowest possible system government?"

As outlined in Chapter 116, the 'Government' of a system has a meaning applicable over the whole range of systems, not just ones in the form of countries or states. In this sense, a government can be regarded as a specialized system with special responsibility for the system's Rule Structure.

In the same chapter, the fact that these Questions are in many ways competing was pointed out. We can illustrate this with another Matrix Cocoon model (Figure 121.1).

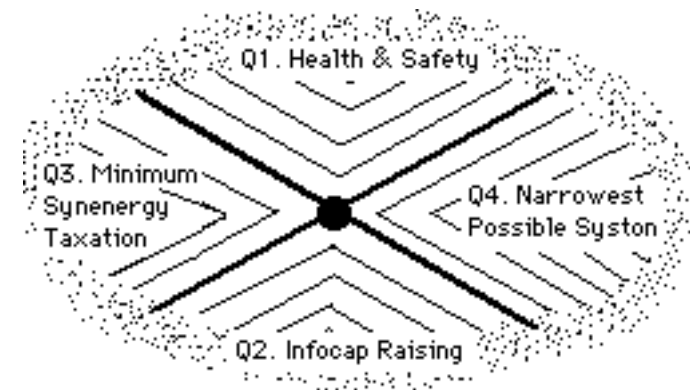


Fig. 121.1. The 'Four Questions' Matrix Cocoon

In this model, the conflicting demands of the Four Axioms are represented in the four divisions of the cocoon. Within each division, the ‘contour stripes’ represent increasing concern with the particular demand. As a physical representation, each division can be thought of as a roughly triangular hill, sloping down to valleys dividing it from the other divisions. For example, the tiny triangle above the word ‘Infocap’ in the Q2 division is the peak of the Q2 hill. As in other examples, the contours do have a link with infocap content.

For any particular scenario, we can get a visual grasp of the relationship of the system involved with the Four Questions by superimposing the system outline over part of the cocoon. All systems will overlap the central point, but the degree by which they extend up the four hills will vary with the individual system.

We will see some examples of this in Chapter 125, Matrix Geography, mostly concerned with current nation-systems, and in Part II of this book. At this point, we can suggest a further property of system skins which will be apparent in actual examples.

Proposition 121B*. *System skins are elastic and pull in as if under tension*

What this Proposition suggests is that the skin of a system is like a rubber band, or perhaps the skin of an amoeba. The system can extend out ‘pseudopods’, bulges in a particular direction, but these will tend to be rounded in outline, and the most common rest state will approach a circle. It might be helpful in grasping the model if the tension of the skin is thought of as due to the accumulated pressure of the infocap within the system, like the air pressure in a balloon.

Where’s the Clock?

The next item in the Checklist is to look at the pacemakers and clocks which are operating within the system. These were covered in Chapter 118.

MT Checklist # 15. *Look at the system pacemakers*

As mentioned, the pacemakers are those regulating particular processes within the system. A system can contain many pacemakers, but any process can be subject to only one, or else it is liable to break down.

Look for the Half-lives

Half-lives and cycle times were also dealt with in Chapter 118. These will figure largely in the analyses in Part II of this book, particularly in economic matters.

MT Checklist # 16. *Look for the half-lives and cycle times*

As mentioned, half-lives apply essentially to systems, cycle times to processes.

What’s Doing the Pumping?

The suggestion was made in Proposition 118C that process cycles may be ‘pumped’ into completion, and that rituals, procedures, even Rule Structures, may bring about this pumping. Often successful completion of a cycle may depend on the right pumping action.

MT Checklist # 17. *Look for the pumping*

Where Can We Make a Buck?

The profit motive can be a powerful form of pumping. When we get to the economics section in Part II of this book, we will use the concept of margin-slack. This is the MT analogue of profit margins in conventional economics, but extended to cover all levels of system operations.

MT Checklist # 18. *Look for the margin-slack*

As an example, if I was to work to introduce a new fruit to the marketplace, the fruit might cost me \$10 per kilo to produce, while I might be able to sell it for \$20 per kilo, if it had novelty value. The margin-slack would be large in this case, 100% on cost.

If the fruit was taken up successfully, I could expect competition to arise, and this might drive the margin down to \$4 per kilo instead of \$10, as the slack was taken up in the economic pressures. The decrease in the margin-slack would be balanced against the infocap investment needed to get the fruit to the marketable stage, which would itself have a relationship with the cycle time.

Look for the Specialist Systems

In Chapter 117 we looked at the role of specialist systems in successful system operation, systems such as scapegoats, idols, and resonodes. Any system scenario examination might well check on these.

MT Checklist # 19. *Look for the specialist systems*

Calming the Traffic

In common with many other cities, Perth has had a concern in the past about the speed of traffic in residential areas.

The early cries by residents focussed on imposing lower speed limits. The problem with this was the difficulty and expense in enforcing the limits. Instead, what has developed over the years is the technique of ‘traffic calming’ — inserting physical obstacles such as low-speed humps, twisting paths between traffic strips, and roundabouts instead of traffic lights.

From the MT viewpoint, these techniques are most desirable, as they are self-policing or need no overt policing. They represent a shift in the Rule Structure away from written

jurisdiction to unwritten physical laws, and in so doing allow a reduction in the synergy taxation needed to maintain traffic order.

MT Checklist # 20. Look for ‘traffic calming’ rather than ‘regulatory’ techniques

Pigs, Wind, and Dirt

Finally, in the last item of our checklist, we will look outside the system, rather than within it. A few years ago I did an analysis of why certain things happened in the plant world — such as why wind-pollinated trees tended to be self-infertile and be more common in dry areas, and why vast wild pig migrations occurred in Borneo [Noël, 1988]. The results were presented at a conference, and the paper was the first place in which I used the Proposition technique which appears in this book.

Out of this analysis came a Proposition, developed to suggest where mimosine-free sources of the fodder plant species *Leucaena* could be found — in places where the grazing-deterrent constituent would have no purpose, no answer to the question ‘What is it for?’. That Proposition said “To solve a problem, look where it does not exist”.

The modern tendency in trying to solve a problem is to look at the problem in more and more detail — to find a cure for cancer, look at people who have cancer. There is nothing wrong with this, but there is an alternative — look at the populations who do not have cancer, and ask why not. If you have a bad problem with fruit flies, instead of finding ways to kill those fruit flies, look at other places in the world which do not have the same bad problem. If you can find out why, you may have an answer to your own problem.

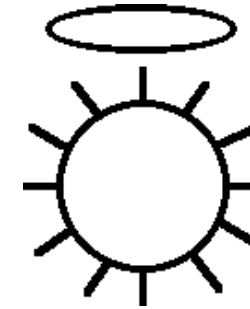
Internal analysis may detect the cause of a problem, but cannot detect the non-cause of a non-problem. The MT generalization of this is that the non-contents of a system may be as important as the contents.

Proposition 121C.** *What a system does not contain may be as important as what it does*

And so, the end of our checklist, for now. Feel free to add your own!

MT Checklist # 21. Look at the infocap not present in the system

Chapter 122



THE RIGHT THING TO DO — Matrix Morality

“Patriotism is the last refuge of scoundrels”

— Dr Samuel Johnson

Politics and Other Crimes

Is there a moral aspect to Politics? I imagine that almost everyone would say that there is. What about Science, is there a moral side to that?

I suspect that those who think there is morality to science would not respond as readily as they would to the question on politics. The more thoughtful response might be to say, that it is not really science itself which has moral aspects, it is the *application* of science.

How about Mathematics? Well, no, hardly anyone would say there is a moral side to mathematics. Mathematics, traditionally the Queen and Servant of the Sciences, is viewed as a non-judgemental tool or techniques package. Valuable both as an analysis and as a synthesis and prediction tool, mathematics pervades the whole structure of modern society. But neither its existence nor its use is classed as moral. Mathematics is morality-neutral.

And just like mathematics, Matrix Thinking is also morality-neutral. The MT apparatus which we have developed here is intended to provide a powerful tool for analysis of human society and other social structures. It is also intended to provide a useful prediction and synthesis tool for possible changes to these societies. But it is not intended to give an answer to the question as to whether particular past, present, or future occurrences are Right or Wrong.

The Buck Stops Here

Here is the crunch. Matrix Thinking is non-judgemental, it is morality-neutral. This is not

a Proposition, I am defining it so. If instances may be pointed out where my application of MT does appear to be judgemental, then I will say that these instances are purely ones where I have been less successful, or even in error, in attempting to accomplish my main intention in building the MT intellectual engine.

It is true that, in what has gone before and what follows, terms as ‘better than’, ‘advantaged’, or ‘successful’ may have been used in the presentation of formal propositions. These terms clearly appear to have some judgemental bias.

I admit this, but say that the judgement is really one level removed. For lack of other acceptable terms, and to avoid increasing the semantic burden with non-essential new words, I am using these terms in the generally-accepted sense. For MT, ‘better than’ means accepted as better in that instance at that time, with nothing absolute about the ‘better’. And, of course, like the Curate’s Egg, MT recognizes that something may be ‘good in some parts’.

What is Morality?

According to the usual dictionary definitions, Morality is concerned with the distinction between Right and Wrong. Whether Right and Wrong are absolute terms or not is a question with as many answers as there are people to respond. Moral behaviour is usually equated with ‘right’ behaviour, or, one step removed, conduct according to a set of rules which is accepted as right.

Matrix Thinking, as we have seen, has the formulation of rules as part of its basis. It does not say what is moral, but can yield a definition of what morality is. Let us present such a definition as a Proposition.

*Proposition 122A**.* **Morality is recognition of the needs of wider systems**

I imagine that such a definition can be regarded as acceptable at the level of individuals. Some would make it stronger, perhaps adding ‘and response to’ after ‘recognition’. This MT definition allows the usual ideas of traits such as selfishness, violence against others, and intolerance being ‘morally-negative’. More important, it brings out the concept that morality is a synenergy flow which is directed outwards, from a narrower system to a wider one.

As always with MT, the intention is that contents of Propositions should be tested as applicable over the whole Matrix, over all levels of systems. Morality is usually applied at the level of individuals, but is sometimes seen at wider levels, particularly at country-system levels.

Wars and Immigration

This is most clearly seen with wars. Wars at every level are usually viewed as high in moral content, particularly religious wars such as the Crusades. In most wars, the countries involved believe that they are in the right, that they are acting in a moral and justified manner — even if they are opposing a country acting directly oppositely, but with the same moral conviction.

It is of interest that Japan, as a country-system, has officially apologized for its actions during World War II. Many would think that this is only right and proper — undoubtedly it

was the Japan-system which was responsible for its acts, these were not just the sum of the acts of the individual soldiers and others involved — but what is interesting from the MT viewpoint is that the ‘systemization’ of Japan has reached such a level.

It has already been suggested that the system skin around Japan is one of the most impermeable of any country in the world. In a real sense, Japan can be considered to have a ‘national conscience’, permitting it to give a national apology. The act of apology involved has very few parallels elsewhere — most other examples involve a head of state ‘expressing regret on behalf of’ the country’s people.

Almost every ‘moral’ aspect of the individual has its parallel in other system levels. These are most evident with systems with thick and obvious skins, such as countries, which in modern times have built up entry controls unparalleled in previous history — very thick skins. The equivalent of individual selfishness is national immigration restrictions. The equivalent of personal altruism is a country’s foreign aid programme. The equivalents of personal jealousy and personal pride are national jealousy and national pride.

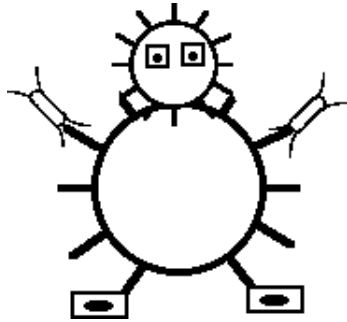
To those who have a personal sense of morality — and who does not — the question from MT would be this: does your morality justify or rule out an action at a wider level, which it would not justify or rule out at a narrower one?

If your neighbour is poor and you would like to help him by buying the fruit he grows or the chairs he makes, should your country help its poorer neighbours by buying the fruit or furniture they produce, or should it impose entry and customs tariffs to stifle these imports off? If you have a morality, how far out does it extend? If your system skin is a thick, impermeable one, bloated with SIOS, does this accord with your moral principles? Do you treat your neighbour as yourself?

MT does not say what is moral. But, in the usual spirit of generalization, Matrix Thinking can be applied to generalize about morality.

*Proposition 122B**.* **Any morality applies equally at all system levels**

Chapter 123



THE FACE OF THE FUTURE — Matrix Machines

“The best way to predict the Future is to invent it”

— Dennis Gabor

Tomorrow is Almost Here

This is not a book about predictions. Nevertheless, there are three particular developments looming which I believe will have marked effects on human society in the years to come, and which are particularly appropriate for examination here. They are all what might be regarded as technological developments, but they are ones which work with the basic stuff of MT, they can be looked on as infocap/synenergy processors. I will call them Matrix Machines.

One such machine is already familiar to most of us — the computer. Modern computers are essentially information processors, they already have a myriad of uses, only some of which involve the sort of arithmetic operations which gave the machines their name. Computers have already been mentioned frequently in this book, they are already a part of our world.

The three machines we will be looking at are not a flight of fancy, they are all already here. But at present they are at only the very earliest stages of their development, although some have a considerable history in fiction. We will look at each in turn, seeing what they can do now and extrapolating their potentials into what they may do in the future.

Matrix Machine 1 — The Detailer

Scenario 1.

It was time for harvest, but the great harvesting machines remained parked silent and rusting in their sheds. Instead, out onto the fields moved a huge swarm of detailers, intent on their task like a colony of soldier ants moving through the jungle.

The detailers were of varying shapes and sizes, each being fitted out with the handlers and movers appropriate for their roles in the day’s activities. Some had legs, others wheels. But all were small, all weighed less than 5 kilograms. All had their own tiny ‘brains’, but all were linked together electronically as part of a greater composite machine, the Harvester.

At least, ‘The Harvester’ was what the composite machine called itself that day. Earlier in the season, using different programs, it had called itself ‘The Ground Preparer’, ‘The Seed Setter’, and ‘The Pest Remover’ at different times.

“Clever little critturs”, mused Farmer Jones, looking up from his screengate into the State Agricultural Development Network. “It wasn’t so long ago I would have had to have been out in the fields myself all day, driving that tractor. Now the detailers do the job, handling each grain individually, rejecting the bad ones. And they slip through the plants so light and quiet, leaving everything just right for the next job”.

So the detailers are robots — but robots with a difference. Less than substitute human beings, more than programmed machines, the detailers are closer to the components of a termite colony, the parts of a greater whole.

They may appear anywhere. In Ray Bradbury’s story *And There Shall Come Soft Rains*, the detailers are house-cleaning robots, scurrying round, cleaning, polishing, picking up particles of rubbish. No matter that the humans are long gone.

The essence of detailers is that they are many and small, working together as a composite, and able to handle objects individually rather than in bulk. I suspect that they will give a whole new feel to the objects they are applied to. Set to paint a house, for example, the result may be too bland, too perfect, for current human tastes. There could be a move to program some degree of randomness or purposeful imperfection in their work.

Detailers may also alter matters to an extent representing a difference in kind, rather than degree. They may, for example, be able to keep a house completely free of all sorts of bugs. Most would see this as a desirable thing, and it may be, but there could be a down side. Some bugs may be beneficial in an unrealized way, and the problems of children raised in a sterile environment when they need to enter the wider world are well known.

Matrix Machine 2 — The Waldo

Scenario 2.

It was panic time at the Antarctic base. Johnson’s accident had been a particularly gruesome one. Dr Mills, the Station’s resident physician, had left for the Outstation on an emergency two days earlier, and was now cut off by a blizzard.

Johnson might live — just. But unless a skilled microsurgical team was available, to sew back on his hands and feet, he would be a hopeless cripple. And there was the dread possibility that his head injury might involve a blood clot in his brain.

The Communications Team swung into action, and almost half a world away, Sir Joshua Wills Sweet, the prominent microsurgeon, was aroused from his slumbers in London. Dr Wilson Chang in Los Angeles and Dr Manuel García Ramis in Ecuador were still awake when called, watching television. And Betty Theodopoulos in Australia and Blanche Kingi in New Zealand were already on duty at their local hospitals.

Each of the medical team climbed into their suits, ready for another gruelling day. Out from the sterile cubicles around the sides of the Antarctic base operating theatre they came, each in their assigned waldo. Quickly the team swung into action, cutting, sewing, and even gluing poor Johnson back together.

Hours into the work, and overcome with fatigue, Wilson Chang signed out and was replaced in situ, or rather in suit, by Joshua M'Tombe in Pretoria. Things were going well, but the blood clot problem was beginning to look serious. Time to call on Olga Vernadskaya in Minsk. Deftly M'Tombe took out Olga's assigned microwaldo, and injected her into a vein. With her experience and competence, and using the simulated route display in her suit, she was able to reach the blood clot site in Johnson's brain in under a minute. Unhooking the slicer on her suit, she carved up the clot and put the pieces into the sack on her back. A few minutes later she was back at the temporary exit valve on Johnson's arm.

The idea of a remote handling device, actuated by a human connected via telecommunications, goes back at least to 1940, when the American science fiction writer Robert Heinlein published *Waldo — Genius in Orbit*.

This story was about about a brilliant character, Waldo, who suffered from a muscle-wasting disorder which left him with very little strength in his limbs. However, Waldo was a genius, and used this genius to overcome his disability. First he applied his talents to the stock market and the commercial world, and built up massive financial resources.

The story was set at a time when space travel was commonplace, and Waldo was able to use some of his money to set himself up in a space home, a living environment in orbit around the Earth. Under the weightless conditions in orbit, he could now move around freely in spite of his weak muscles.

Of course Waldo was in constant touch with Earth through telecommunications, but he was physically isolated, and needed to be able to handle physical things remotely — perhaps sign a document, or control a delicate operation in the assembly of one of his inventions. So he devised a pair of gloves, equipped with pressure sensors which could transmit the movements of his fingers to another similar pair of gloves elsewhere, and reproduce the responses back from those gloves to his own fingers. With a suitable television link, it was as if he could see, feel and manipulate an object thousands of kilometres away.

Beginning in the 1950s, these Waldo Gloves, or waldos as they came to be known, started to be constructed in real life. Their first application was in the handling of radioactive materials, and the early models were fairly primitive, mechanically linked rather than electronically, and operated in line of sight.

With improvements in electronics, devices much closer to Heinlein's original concept can be built. A term which is sometimes used for this sort of remote operation by humans is Telepresence. Let us look at just a few possible examples of its use.

Don't Go Down the Mine, Daddy

In Chapter 16 we saw how emphasis on individual health and safety formed a basic part of the rules for running systems. Use of waldos in dangerous occupations like underground mining could completely transform current practices.

Three kilometres deep in the South African gold mines, conditions are both dangerous and extremely unpleasant. Temperatures rise progressively as you go down into the Earth, and cooling the air low enough for humans to work at these depths is an expensive problem. The tremendous rock pressures make gallery collapses an ever-present danger.

If waldos are used instead of in-position people, everything changes. No need to cool the air and test it for breathability, just engineer the remote handlers to cope with whatever is there. If human lives are no longer at stake, safety problems vanish, and loss of equipment through accidents becomes merely a factor in costing, or a pointer to improving ruggedness.

And for the human waldo operators, life becomes far more pleasant. No more long descents into the pit, no need for tightly-scheduled shift changes to keep things running, instead just switch out Bill and switch in Jill. And Bill and Jill don't even have to be at the minesite, after his stint Bill just walks out of his lakeside cabin and gets on with his fishing.

Move Over, Gulliver

So waldos could do jobs too dangerous for humans on the spot. With scaled waldos, made much bigger or smaller than humans, things can be done which are impossible for humans because of their size. A tiny mining waldo, for example, could follow an individual vein of gold along without the need to excavate a human-sized tunnel. And a giant road-making waldo could cut out a new freeway 'manually', using a giant version of a domestic shovel.

There are practical and theoretical limitations to waldo scaling. Overcoming practical limitations is just a matter of engineering development. For example, in making very tiny waldos, there is a practical limit to the accuracy with which an engineer can work. But if a one-tenth scale waldo can be made, that waldo can be used to build another at one-tenth the size again, and so on.

Then there are the theoretical limits. In scaling, underlying units like the size of the wavelength of light are not scaled, and impose a limit on the fineness of detail ('the resolution') with which an object can be scanned. Nevertheless, scaling down to one-thousandth — a microwaldo 2 millimetres high — should be theoretically possible.

With scaling up, the limitations are in strengths of materials. Doubling the height of a machine, while keeping all its proportions constant, increases the cross-sectional areas of its components by four times, and its mass or weight by eight times. That is why all large land creatures, like elephants, have relatively thick legs, they have to be thicker to take the weight. It may be that such limitations would keep upward scaling of waldos to less than a factor of a hundred. Even so, seeing a 'man' 200 metres high treading the landscape would still be pretty impressive.

Riding a Bicycle on the Moon

Another theoretical limitation to the use of waldos comes in when the distance at which they are operated becomes large. The limitation is in the speed of light, or more strictly the speed of electromagnetic waves, including radio.

Moving at around 300,000 km/hour, light could travel round the equator seven times in a second, so for remote waldos on Earth, the limitation is not serious. If the signals travel via

geosynchronous satellites, about 40,000 km out, the delay is perceptible but not serious; you can notice it with some long-distance phone calls.

When you move out as far as the Moon, about 400,000 km away, that is about the practical limit for ‘real-time’ waldo operation. Signals take over a second to go from the Earth to the Moon, and the same to come back. It would be possible to dig out minerals with a Moon-based waldo, with the operator on Earth, but he would find the controls very ‘sluggish’. Could you ride a bicycle, via a waldo, on the Moon? The balancing problems would be serious — a tricycle would be easier.

Of course there is a vast opportunity in this area, that of Waldo Tourism. Waldo tourists would be able to swim without danger, deep in the sea, going on as long as they wished. They could excavate sunken ships, pick up the best crayfish, climb the highest mountains. From the MT viewpoint, tourism is one of the most important human activities, involving as it does such a concentrated synergy flow.

But the Moon is likely to be the limit for the Waldo Tourist. The nearest planets are several light-minutes away. To travel around these, we would need to fall back upon a mechanism which is acceptable, but would still seem rather second-class.

Making Love to Marilyn

Any information which can be transmitted can be recorded. Anything experienced remotely by the operator of a waldo suit could be recorded and played back to them or someone else at another time.

The most obvious use of such a facility is for entertainment or pleasure. In principle, it would be possible to hire a waldo tape of someone walking on the surface of Mars, or making the winning Olympic bobsleigh run, just as people now hire video tapes.

In Part 2 of this book we will look more closely at the major role of entertainment in the human-based Matrix. There is no doubt of the reality of this role, and for this reason recorded waldo entertainment tapes are likely to be at the forefront of commercial development of this field. But there are huge vistas of other human activities where waldo tapes could be used, and it is in these where the ultimate impact of the new technology could be greatest.

Matrix Machine 3 — Virtual Reality

Scenario 3.

Jason Wilsbury sighed. He generally enjoyed his time at Art School, and particularly the Wood Sculpture course he was presently spending most time on, but it was taking him some time to come to grips with the material he was using.

Resignedly he put back on his helmet and gloves, picked up the chisel and went back to work on the huge block of expensive Titapi Rosewood. He laboured on, and late in the morning, when the others were beginning to drift off to lunch, he felt the tingle in his hands which meant he was coming to terms with the wood.

With growing excitement he cut and sawed, feeling the figure come alive in his hands. It was growing full of character, exaggerated and something of a caricature perhaps, but the figure was emerging with a breathtaking power to draw and hold the attention of a passer-by.

And then the inevitable happened. Working at a tricky angle near the neck, he overdid the force behind his hammer blow and the whole thing split in half. The wood was ruined.

Sighing once more, Jason called over his class supervisor. Mr Hansen plugged in his helmet, studied the ruined block of wood for a couple of minutes, then used his override key to wind the block back to where it was before the fatal blow.

“If you had put a rest on the shoulder, and used a power cutter from this sort of angle, it wouldn’t have happened, Jason”, said Mr Hansen. “You have a go like that now. It was a good job you weren’t using real wood, eh, at two thousand dollars a block!”

Jason began to feel good. He knew that the log of his actions recorded by the simulator would be able to cut out a solid good enough to take him easily through the term’s exams. And next year, or the year after, his skills would be developed enough for him to work live, on a real block of wood, drawing out the inner figure with an empathy which would never be possessed by a machine.

Virtual reality is already here. Wearing a helmet and pressure-sensitive gloves, you can today enter a world in which your vision and touch response are synthesized and delivered by computer. And you can interact with other real people.

In a recent television programme [Beyond, 1992], the presenter showed the stage of commercial development reached by a virtual reality entertainment system. Wearing a helmet, she could see a small helicopter flying around the virtual world set up the system, and if she reached up, she could touch and feel the helicopter with her pressure-sensor gloves. Taking off the helmet, she was visually back in the studio and could no longer see the virtual helicopter, but she could still reach up and feel it, in mid-air. “An uncanny feeling”, she said.

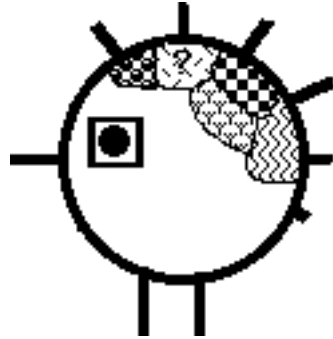
This is an area about to enter a rush of development. It is likely that the huge infocap flows which can be generated by successful new entertainment systems will take this technique through a quantum leap. At first, cruder games will predominate — fighting opponents with simulated laser guns, for example. Then will come more sophisticated games, such as tennis practice, with a real or a simulated opponent (do you really want to play Simu/John McEnroe, complete with swearing?), then more and more complex applications in amusement, education and training.

We will look at some of the possible developments later, in the appropriate sections of the second part of this book. An incidental comment to add perspective — from the MT viewpoint, all entertainment, training, education, and perhaps even work are the same sort of infocap/synergy entities. The distinctions between them are purely arbitrary.

So those are the three major Matrix Machines. Detailers, small automated devices linked as a composite; waldos, with which a human can react remotely with a real environment; and virtual reality, where a human or humans can interact within simulated environments, including ones with simulated humans.

We can move on now to look at another topic — the ‘psychology’ of systems.

Chapter 124



A MATTER OF MOTIVE — Syston Psychology

“I wished, by treating Psychology like a natural science, to help her become one”
— William Joyce

About Psychology

In this chapter we will not really be looking at Psychology as it is presently understood, that is the workings of the individual human mind in its interaction with the outside world, but more on the analogues of these interactions taking place in wider systons. But the plan, as always, is to work from examples at a familiar scale and then extrapolate and generalize from those examples for the whole range of systons.

If current Psychology is a science, it is at best an uneasy one. It certainly lacks the deft power of prediction found in the hard sciences like physics and chemistry. But perhaps one of its weakest points is that its results cannot, in fact, be scaled up and applied with any precision to bigger aggregates of humans. The basic reason is that results from one syston are being applied to another syston of quite different character and size.

As an example, let us look at the field of opinion polls.

Galloping to Uncertainty

Opinion polls and all the allied areas of market research and consumer surveys have a simple goal, that of predicting the outcome of a projected or expected action. With a forthcoming election, for example, the hope is to be able to predict the outcome of the election by sampling the opinions of a selection of the voters.

Of course such polls and surveys are notorious for their inaccuracy when compared to the

actual results. We might ask why this should be so.

There is an inaccuracy in the very fact of sampling, rather than checking the whole, but this is not a strong point. The mathematics of probability give a sound basis for ensuring that a small sample, carefully chosen as representative, is as good as checking the whole. And in practice the results of surveys of large numbers of people are found to give virtually the same results as those for a much smaller, but statistically sufficient, number.

A more important point is that the expressed opinions of people surveyed are not necessarily their ‘true’ opinions. This aspect ranges through from instances where people prefer to give a ‘tactful’ response which they feel will be more acceptable to the surveyor, on to the case where the respondents have just not thought very much on the point surveyed, they have not yet crystallized their likely response to a real test.

And, of course, there is the point that the range of responses listed in a survey may be far less subtle than those actually available. In a compulsory election, for example, no opinion poll will pick up those who remain uncertain right up to the actual ballot paper, and so make somewhat ambiguous markings on them (perhaps even without conscious thought) which may cause the papers to be classed as invalid.

It seems to me that the most likely reason for the inaccuracy of such polls and surveys is a simple one. That is, that the surveys do not, in fact, survey the same entities as those which actually vote or respond in real life.

A Case of Mistaken Identity

The point which I am trying to make is this. From the MT viewpoint, an event like an election is not just a process which occurs at a single point in time. Instead, it is a cycle, a process which extends over days, weeks, months, years. The actual ballot day is only the most visible and obvious part of the cycle, the peak of the mountain. It is all the time, effort, and worry expended by the climbing team in the weeks before which determines whether they actually get to the top — booking up the ten best climbers is not, in itself, enough to ensure success.

What actually seems to happen in such a cycle is that as it advances, a new, temporary syston forms. It is the attributes of that syston, as an individual syston, exercised and summed over the life of the cycle, which determine the outcome of the cycle.

If the cycle is an election, it is tempting to label the systons involved with the names of the participating political parties. But the actual systons are far more extensive, far more diffuse, than these. Even in a local government election, the threads may extend around the world. Was one of the candidates born in America, does he represent some subtle unstated dominance factor? Does the candidate support the local soccer club, rather than Australian Rules football, would he be closer in feeling to the ‘ethnics’ from around the Mediterranean?

In Chapter 114 the Proposition was advanced that matrix quantities are not additive through systons. I suggest that this is the essence of the inaccuracy of conventional opinion polls. The individual people-systons surveyed do not simply add together to give the same response as does the temporary event-cycle syston in which they participate.

Proposition 124A*. *For any event cycle, a temporary event-cycle system will be formed with responses which may not match the aggregate responses of its constituents*

Mob Law

A very powerful expression of this situation can be found in the occurrence of mobs. These are very temporary, rapidly-formed systems which react in a way quite uncharacteristic of the individuals making it up. “The mood of the crowd suddenly turned ugly”.

Anyone who has been caught up in a true mob can testify that it can be a terrifying experience. It is like having to deal with a suddenly-erupting ferocious wild animal, completely unexpected, and with great but uncertain powers.

Mobs can do terrible and wonderful things. Individual feelings, logic, restraint, are lost in the formation of the greater system, which, as a system, can roar on and storm the barricades in a manner which has regard only for its own aims.

Similar, but milder, examples are to be found throughout the Matrix. Team supporters at a sports arena, for example, meld together during a match and can project great masses of empathy, huge synergy flows, at the players and other supporter groups. That is why it is easier to win a game played at home rather than away. And the temporary systems formed can actually degenerate into mobs on occasion.

Man, Woman or Chile — Ella is de Most!

As a fan of Ella Fitzgerald, I used to buy and play her records a lot when I was younger. In 1956 I was in Berlin with the British Army, when a concert was arranged there for her. Morale was an important factor for the Allied Powers, and Berlin used to get quite a lot of special treatment. Naturally I took the opportunity to see and hear her ‘in the flesh’ for the first time.

The experience was electrifying, fully justifying Louis Armstrong’s assessment of Ella. It was also illuminating. For the first time I understood why people actually bothered to attend live concerts, concerts made up of items which could be far more conveniently heard on records, recorded under technically far superior records.

The difference was this. The concert had what is called ‘atmosphere’. By virtue of the actions of the performers, and the resonance of these with the audience, everybody there was merged together into a composite, performers and audience both. There was a powerful synergy flow, amplified by the resonating ability of the performers which was mentioned in Chapter 117.

This is nothing new. Peter Ustinov, among others, has pointed out how important the audience is to live actors, to live performers of every sort. Even with films, where the actors are not present in person, there is a difference between watching a film in the cinema, and watching it on a video. I have seen films, such as *Withnail and I*, which were so funny that I was ‘rolling around in the aisle’, tears streaming from my eyes, unable to hear or see what was going on. That never happens at home.

In MT terms, we might say that every live performance, if successful, sees the creation of

a temporary ‘performance’ system, one which is created through performer/audience synergy flows and synergy resonances, one which is born, grows up, enjoys a flourishing and rewarding period of maturity, and finally goes to a well-earned and applauded rest. All in two or three hours.

Synergy is All

In Chapter 106, where the concept of synergy was first developed, the suggestion was put forward (Proposition 106E) that synergy flow was the major need and desire of all human systems.

The concept of synergy flows is the key, in my view, to understanding the operation of human societies. Synergy is the force that powers human systems, just as energy is the force that powers physical systems.

Again, this is nothing new. ‘Love makes the World Go Round’. This, and a host of other sayings, can easily be seen as specific examples of the generalization embodied in Proposition 106E. Let us look at some other facets of this matter.

Look at Me, Mum!

Everybody needs attention. Small children, it is well known, desire a continuing, responding, audience. They cannot get too much attention.

Of course this demand for attention is part of growing up, it is part of a pattern of producing actions and seeing whether they are approved, tolerated, or punished, as the case may be. A pattern of developing a personal Rule Structure to carry the individual through later life.

Kittens, puppies, any young creatures brought up in a social context, all go through such a process. With kittens, the bulk of the process is gone through in a few weeks or months. With humans, it takes years.

And because humans live in a continually changing society, especially in recent centuries, it has become important for them that they retain some ability in this direction, even in their later years. In conventional terms, this adaptability is seen as a survival characteristic in changing circumstances — adaptability is good.

The MT view would be rather more complex. If adaptability is important, then a range of adaptabilities is better for the containing systems. If ability to build up Rule Structures is important in young systems (an ability in direct conflict with adaptability), then the oversystem will benefit by having some set in their ways in their youth, others able to adapt and expand on into older years.

In addition, it is important to remember that the value of any system characteristic depends very strongly on the stage that the system has reached in its own development cycle. The child is open and uncritical, the youth is rebellious and idealistic, the man is tenacious and strong, the old person mellowed and conservative. The individual idiosystem benefits from the change in characteristics, while the wider system benefits from the diversity, not only that inherent in individual variation, but also that stemming from the variation in a system’s characteristics as it ages.

In the Pilbara area of Western Australia, there are a number of ‘new’ mining towns, built

especially to mine a particular iron ore deposit. Some are quite large, with high schools, sports arenas, television broadcasting towers, all the trappings of civilization. But because these are towns newly settled from scratch, they have a great missing segment in their makeup. There are no grandparents.

So the working wife cannot call on 'Mum' to look after young Tristan when he is sick, the kids cannot rollerskate over to Grandpa's to see his rabbits or get help with their stamp collection. There are no retired people in the town, no mature, unhurried experience to call on for some of the more subtle needs of life. These towns are systons with whole segments omitted.

The Synergy Urge and Synergy Conversion

It appears that the need for attention is just one form of the Synergy Urge felt by all systons. As we progress in this book we will find other expressions of this urge everywhere.

What is interesting, is that if a syston is deprived of a preferred form of synergy, it will seek another, substitute form.

This tendency is sometimes called sublimation. Sublimation is a term with moral overtones which make it unsuitable for use in an MT framework, but the concept is in accord with the suggestion, back in Proposition 106A, that all forms of synergy are capable of interconversion

Proposition 124B**.** *All systons are subject to a Synergy Urge, an urge for synergy flows to and from itself*

Proposition 124C.** *A syston starved of the flow of a preferred form of synergy will seek to compensate with another form*

There is a point worth emphasizing as regards synergy flows and urges. These urges run both ways. Perhaps the strongest direction is to receive, to learn — getting enough to keep alive and thrive must be a fundamental feature of syston survival. But it would be remiss to leave the other flow out of consideration — the urge to teach, to give, to help the wider syston.

Why Bother? It Isn't Worth It

A regrettably more and more common example of synergy conversion is seen with teenagers leaving school at the age where once they would expect to start working. Increasing unemployment, especially marked for school leavers in the western world, has dropped huge numbers of these young adults into a synergy vacuum where they are, very understandably, 'at a loose end'.

Bored and listless, these teenagers have suddenly been cut off at the knees as regards synergy flow. The continuous flow provided up to that time by their school system has stopped, and they have nothing to replace it. It is no wonder that as they cast around for other forms of synergy to compensate, they may turn to extravagant dress and behaviour to attract attention flow, or spend their time in video game arcades for their interaction with computer

simulations, or drift into petty crime as a source of money, a most potent form of infocap.

The overt complaint of the unemployed young is their lack of money flow. That their real lack is of synergy generally, rather than its specific form as money flow, is shown by the fact that this complaint largely disappears if they move on to further education or training. In such a case, or even if they move into an unpaid job, perhaps as an overseas aid volunteer, they will then satisfy their Synergy Urge and the money becomes less important. To the unemployed, money in actual fact may be important more for its use in gaining synergy flow, rather than overt reasons such as food supply.

From the viewpoint of the wider syston, it would be very clearly advantageous to channel these unsatisfied synergy urges into productive, or at least non-destructive, directions. The Matrix Machines described in the previous chapter offer one way of achieving this. It is irrelevant if these are presented initially as entertainment, entertainment is the same thing ultimately as education, and education is a major route to infocap accumulation.

What stops the rapid implementation of this idea? The point is, the syston must already possess the infocap needed to implement it. While young Mark Jones would be delighted to put aside his racing car video game to spend time operating a mining waldo, competing with others to get the highest production with minimum damage to the remote, the capital cost of the equipment may well be prohibitively high.

But if money makes money, our generalization here is that infocap breeds infocap. The challenge to the syston, as always, is to plough back as much as possible of its infocap dividends into research and investment, rather than using them as a living wage.

Taking the General View

Psychologists deal with the whole gamut of human emotions and attitudes — pride, anger, love, envy, humility, self-sacrifice, urge to learn — the list is endless and intricate. If the basis behind the Matrix Thinking approach is valid, then all these emotions and attitudes will have their analogues in wider systons.

Proposition 124D*.** *All human emotions and attitudes have analogues in wider systons*

Nowadays, the seat of these emotions and attitudes is regarded as the brain, although by western tradition the seat of love is in the heart (in Malaysia, it is the liver!). It is convenient to have an assigned site for syston control activities — in MT symbology we assigned this site to have the 'government' symbol. And we used the syston boundary or skin idea to include functions such as immune reaction processes, even though they might take place elsewhere.

In practice all such functions in systons are more or less spread around, 'distributed' is the technical term. In animals the brain is obviously a major site, but the glandular system, distributed throughout the head and torso, is also very important. In a termite-nest syston, where the queen is not much more than an ovary, and syston communication is more chemical than electrical, this distributed control is very obvious.

And in a complex tree, or even more so in a tree-species community which might extend

over a whole State, there is no candidate for a central control site.

So in looking at the influence of wider-syston ‘emotions’ on their activities, we cannot expect to always have these localized in a recognizable place — in ‘the Government’, for example.

She was Only Sixteen

We have already looked at the way a syston changes as it goes through its development cycle. As these changes occur, they are paralleled by changes in the psychological attitudes — and even in the Rule Structures — applying to the syston.

On the psychological side, a recent study [Found, 1992] of the attractiveness of individuals showed some interesting results. An adult face was much more likely to be attractive if it retained features common in childhood but usually diminished in aging, a characteristic called neoteny.

As an example, in children the eyes are relatively lower in the head than they are in adults. As the skull ages, it changes shape, and the measurement from the top of the head to eyelevel increases less than the measurement from eyelevel to the bottom of the head — the top-half/bottom-half ratio decreases. Computer-based faces generated using different ratios showed a strong correlation between perceived attractiveness of a face and possession of a top/bottom ratio more typical of a child.

This study and others have shown a similar correlation for other characteristics which vary with ageing. Thin, grey, bony faces seem less attractive than more chubby ones with smooth rosy cheeks. Large eyes are used consciously by artists to produce attractive faces. A ‘youthful appearance’ is desired by all who age, particularly women, for whom it is part of their resonating apparatus.

Different criteria apply to judgements on synenergy flows at different ages. “She was only sixteen/ and I was too young/ to know she was too young to love”. Should sexual contacts be permitted/encouraged in old people’s homes? What is the magic of Peter Pan?

It is interesting how human characteristics tend to ‘set’ at certain ages. Sometimes there is a physical basis — until the age of three, the neurons in the human brain are still growing together and interlinking, which may be why few people have memories of life before three.

Other changes are apparently more social, occurring with the influence of wider systons. Accents tend to set close to the age of fifteen. Your basic circle of friends tends to have set by the age of 25, and your dress and fashion preferences by 30. Music appreciated may go through a violent development, from the heavy beat and loud volume needed at 15 to 25, through to more subtle needs in the thirties. But few people change their basic music preferences after 35.

All this is an expression of a general change which we can expect to occur at all syston levels.

Proposition 124E*. Synenergy flow patterns change with the progress of a syston through its development cycle

He’s Just a Kid

When it comes to Rule Structures, we are accustomed to the idea that rules need to take account of the age of the person involved. A four-year-old cannot be charged with murder; if a fifteen-year-old can, they will usually be dealt with in a Children’s Court.

In Chapter 112, we saw how rules could be written or unwritten, but the enforcement of all sorts of rules varies with the age of the subject. Even the descriptive words used vary — if someone is ‘scrumping apples’, it is expected to be a boy between 6 and 12 years old. Moralities are not yet set in youngsters. “You have to make allowances”.

Naturally enough, the younger ages of a person are those in which infocap accumulation is normal. Their syston will provide schooling and care, the payback from this investment is not expected until they are 15, 20, 25, or even more. Most developed countries have compulsory schooling until a certain age, working to a written Rule.

Of course there are rule changes at the older end too. Most countries have a notional ‘retirement age’, by which people may be expected, or even required, to give up work. Those beyond this age will often be supported by general state pensions or allowed taxation privileges.

We are ourselves living in an era in which Rule Structures are beginning to take account of the ages of wider systons. At the young end, there may be special tax incentives for start-up companies, special research investment or allowances for what are seen as ‘sunrise’ industries. At the more mature end, we are seeing increasing legislation to break up monopolies and cartels, the analogue of retirement legislation for individuals. In the middle range, we have the recognition of ‘class actions’ in legal procedures, where a special-purpose syston is created to carry an action through the courts.

Here is an area where MT would expect major changes in the years to come, as voluntary and compulsory Rule Structures are created, adopted, adapted, and refined to nurture systons at every level.

Proposition 124F**. Systons will be advantaged by increasing development and definition of the Rule Structures under which they operate

According to Freud

Whether justified or not, the popular conception of the work of pioneer psychologist Sigmund Freud was that almost everything in human psychology was dominated or tempered by sex urges.

There are MT analogues of the individual sex urges which apply to wider systons. But here, I will make a small diversion, in the application of the MT Engine developed so far to the matter of human sexuality. Whether it is ‘the’ topic, or only ‘a’ topic, sex is undoubtedly the strongest synenergy flow which most of us have to contend with.

A warning — some of that which follows could possibly offend those with fixed ideas about sex. Such people are asked to skip the rest of this chapter and start at the beginning of

the next on page 188. Nothing in the rest of this book requires understanding of that which follows in the rest of the chapter.



Adults Only



Well then. The first area to be looked here is the use of the Matrix Machines discussed in the last chapter in the area of sex. Some of the suggestions made may be titillating, others appalling.

Then on to the consideration of the implications of such uses. Depending on your viewpoint here, the suggestions made may be either appealing or sobering. But remember, these suggestions come out of the Matrix Engine. I may be responsible for designing the engine, but I didn't determine what went into it, and what comes out is not necessarily my personal view.

Round and Round Went the Bloody Great Wheel

No doubt the idea of automatic sex machines is as old as the idea of machines itself, that is the typical one-track human mind, one might think. But until recently, the actual production of some of the more exotic such machines, ones which could truly simulate the action of a human, were in the realms of science fiction or way-out pornography.

One of the most potent examples of such a science fiction story is Fritz Leiber's *The Silver Eggheads* [1961]. Leiber's story was a light-hearted satire of the publishing world of the future, in which all new books were written either by specialized giant computers ('wordmills'), or by robots — and the robot literature was intended for reading by other robots.

Leiber's use of 'robot' was the same as that in the work for which the word was coined, Karel Capek's *RUR — Rossum's Universal Robots*. In other places the term 'android' has been used, and in both cases they represent an artificially constructed human, a thinking entity of close to normal human appearance and function.

Madame Pneumo's Establishment

In 1961, more than 30 years ago, perhaps the only way some of Leiber's ideas could reach the general market was as light-hearted satire. Here are some quotations from his dialogue.

"You see, fifty years or so ago there was this mad robot named Harry Chernik ... whose ambition it was to build robots which would be exactly like human beings on the outside, down to the least detail of texture and anatomy. Chernik's ruling idea was that if men and robots were exactly alike — and particularly if they could make love to each other! — then there couldn't possibly be any enmity between them; Chernik was doing his work, you see, around the time of the First Anti-Robot Riots and he was a dedicated interracialist".

Unfortunately the whole project was beset with difficulties. *"Most robots simply didn't want to look like human beings, and besides, all the space inside a Chernik robot was so taken up with machinery to enable the robot to counterfeit the behavior of a human in bed and in other simple acts of social intercourse — fine muscular controls, temperature and moisture*

and suction controls, etcetera — that there wasn't any room for anything else ... to squeeze both a real robot and a Chernik automaton into the same simulated girlskin envelope they would have had to be ten feet tall or as big as circus fat-women ..."

His dreams of interracial harmony shattered, Chernik committed suicide by electrocution, but not before experimenting with the male equivalents of his 'femmequins'. Then the worldly-wise robots who had been financing Chernik moved in to use the femmequins for the purpose they had always had in mind, putting them to work *"in an establishment catering to male human beings, only adding certain hygienic and economic safeguards that had never occurred to Chernik's essentially idealistic imagination"*.

Later in the story Leiber has an episode which details a wince-making example of these 'economic safeguards', methods the femmequins used to ensure they were paid. And the fact that the femmequins didn't have room in them for all the usual thinking apparatus didn't actually turn out to be a disadvantage:

"Their mindlessness was an outstanding attraction, of course, and it in no way prevented special cams and tapes being temporarily put in them that would enable them to perform any act or murmur any fantasy a customer might desire. Best of all, perhaps, there was absolutely no sense of human entanglement, clash, conflict, or consequence involved in your commerce with them".

And there were interesting developments beyond those possible to a human woman:

"Can you imagine, Flaxy, having it with a girl who is all velvet or plush, or who really goes all hot or cold, or who can softly sing you a full-orchestra symphony while you're doing it or maybe Ravel's Bolero, or who has slightly — not excessively — prehensile breasts or various refreshingly electric skin areas, or who has some of the features — not overdone of course — of a cat or a vampire or an octopus, or who has hair like Medusa's or Shambleau's that lives and caresses you, or who has four arms like Siva, or a prehensile tail eight feet long, or... and at the same time is perfectly safe and can't bother or involve or infect or dominate you in any way? I don't want to sound like a brochure, Flaxy, but believe me, it's the ultimate!".

Then and Now

When Leiber wrote his story, it was all an amusing fantasy, not a practical proposition. To change a femmequin's operation, you needed to insert a bulky 'special cam or tape'.

Now all that has changed. It would be perfectly practicable today to change the femmequin's programming by loading in new code, and that could be done invisibly, remotely, and almost instantaneously from anywhere in the world through satellite links and inbuilt 'cellular modems'.

And it could be done interactively, moving the Simu/lover device right into the world of Virtual Reality mentioned in the last chapter. With a full-body waldo suit shrunk down to no more than a body stocking and eye-domes, and linked to appropriate waldo tapes or optical fibre Experience Banks, the world of possible sensation is opened up far beyond the "ultimate" of Leiber's character.

The technology involved is already under development, and has been given a name — dildonics. That name implies interaction of humans with artificial sex devices. The social

implications are scandalous, with such slogans as “Orgasm of the Month”, “Top 20 Homo Encounters”, or “World’s Greatest Fantasy Trip (take only under medical supervision)”.

And there is more. There doesn’t have to be a machine at the other end of the optical cable, it could be another human being.

The Ten-Foot Contraceptive

In architecture and engineering, CAD or Computer Assisted Design is a commonplace in modern offices. With CAD, the architect can work interactively with a database, designing, displaying, amending a proposed building until it looks right and will work properly.

There is no reason at all why conventional human coupling could not be increasingly supplanted by Computer Assisted Sex, with the two parties separated by only a few metres or so, but with a powerful CAS facility in the line between them, enhancing and supplementing their initial reactions, guiding them and teaching them for an increasingly satisfactory result.

An interesting idea but economically impracticable? Not so. A conventional two-hundred dollar compact-disc player has within it a billion dollars worth of development and research. You can buy one for a few hours’ pay because everyone wants one, the costs are split among millions of mass produced units. Don’t you think a CAS unit would be at least as popular as a CD?

For those with certain moral concerns, the CAS unit can remain purely a husband-and-wife matter, and if the husband has to go on an overseas trip alone, the couple don’t have to give up their marital pleasures. Could be some shrieks about phone tapping, but.

And if over-population is the major problem facing our species today, what better solution than to move to a situation where, like horse-riding, what might become known as ‘hill-billy sex’ moves to novelty and recreational value only? Where CAS-fertilization becomes so efficient and reliable that the incidence of babies born as an unwanted side-effect of sex just fades away?

The health and contraceptive advantages are obvious, and if you want your love to last, record it and play the best bits again in the future. Paradise for the hedonists?

But After, When the Fun Dies Down

The scenarios just described may be interesting, tempting, even likely to come to be. But there still, looking over our shoulders, is old kill-joy, bleating on about “the future of the human race”. Has he got any valid complaint?

The implications inherent in the scenarios have major practical advantages. Over-population, AIDS, prostitution, sexual frustration, family violence, all are swept aside by the bright new technology. But where does it leave the human systems involved?

What about all the diverted synenergy flows? Will the family and other time-tested systems fade away? Will mass addiction to lotus-land pleasures occur, will the Ascent of Man just fall in a heap?

Take courage. It may be very different in the future, but it could be very much better. True, we could be looking at a totally different kind of society in a hundred years time, one as

different from that of today as humans now are from the apes. The whole race may move on, over a giant infocap barrier, to produce a new syston entity, as in Arthur C. Clarke’s *Childhood’s End*.

In such a situation, today’s petty arguments — the cries of the feminists about exploitation of women, the problems of racial discrimination, the faltering economics of battle-torn nations — these may be but a historical memory, totally unimportant, their significance lost in the succession of generations — if, indeed, generations still exist. Humanity burned and risen again, riding on massive synenergy bolts.

A naive glimpse at an impossible Utopia? Maybe. But one thing’s for sure — the future will be very different. If this book helps in any way to preview the way ahead, it will have been worthwhile.

Chapter 125



WHEN THE LOCUSTS SWARM — Matrix Geography

“The course of evolution shows that the highest achievement of one species becomes an embryonic development in succeeding forms. And so, too, perhaps with cultural evolution”

— Brian Aldiss [1988]

Looking at The World

In Part II of this book we will apply the Matrix Thinking apparatus we have built up to some of the various topic areas comprising human activity and thought. In Part I, of which this is the last chapter, we have, of course, drawn many examples from all parts of the Matrix in the building of the Intellectual Engine.

But we will close off Part I with a brief look at some of the World’s countries, from the MT viewpoint. This survey will of necessity be very patchy and incomplete, and will also be rather subjective. The aim is not to compress world geography into a nutshell, but rather to pick out a few particular examples of countries in different stages of development, apply the MT engine to them, and note some of the outcomes.

Some of these outcomes will be in the form of predictions, and some of these predictions may annoy some of my readers. However, I should point out that these are not really *my* predictions, but rather the predictions of the model, of the MT engine. There will be some of my own subjectivity creeping in, and readers are welcome to identify such instances and substitute more objective approaches to the matters in hand.

Ontogeny Recapitulates Phylogeny

Perhaps not the most obvious war-cry with which to enter battle, but “Ontogeny recapitulates phylogeny” is the inscription on one of the banners which evolution scientists carry with them in their advance on the Scientific Front.

What this phrase, originated by Ernst Haeckel, encapsulates is one of the most interesting and powerful observations made in the study of evolution. As an individual creature is conceived and starts to develop through the embryo and infancy stages, along its path to adulthood and maturity, it tends to re-trace in quick time the evolutionary history of its species.

Thus, a human embryo possesses such ancestral features as gills and a fish-like tail in its early stages. The earlier in its development such features appear, the earlier the part of the evolutionary path which is mirrored or evoked. This phenomenon applies to all animals and plants, and provides powerful evidence for deciding some difficult questions in science.

For example, suppose you were investigating superficially simple creatures such as tapeworms. There are two possible ways in which a simple parasitic worm might come into existence, it might be a basically unevolved species which never got very high up the evolutionary scale, or it might have come down from a more complex creature which lost features of no value to it when it adopted a parasitic life.

Examining the embryos of a parasitic species may tell you which route the species took. The answer is not general over all species of parasites, but the second route is the most common.

In the last chapter we mentioned the phenomenon of ‘neoteny’, in which childish characteristics may be retained into adulthood, sometimes increasing the ‘attractiveness’ of the individuals involved — possibly an interesting survival mechanism. It has been suggested that human evolution has also been characterized by neoteny.

Certainly young chimpanzees and baboons have much flatter and more human-shaped faces and heads than their adult forms, a feature which makes them particularly lovable. In this sense, humans show retarded evolutionary development, individuals do not go on in adulthood to develop their muzzles as the other apes do. Confidently, we tell ourselves that our evolutionary development has been concentrated in the brain.

When the Locusts Swarm

Locust plagues have been a bane of mankind since our earliest history, they are mentioned in the Bible and in other ancient documents. In studying locust plagues, the early entomologists were confronted with a real puzzle — the young of the plague locusts could not be found. It was true that another locust species could be found in the areas where the plague locusts appeared to originate, but this other species differed in appearance to the plague locusts, and did not show any tendency to swarm and migrate.

And then, in the 1920s, the answer was found. The two locust species were in fact only one. With sufficient food and feeding area, the adult locusts stayed put, lived and bred as what is now called the ‘solitary phase’. But if individuals were excessively crowded together, within 48 hours they could change their physical appearance into the ‘swarming phase’, and

swarm and migrate as the feared locust plague.

In 1990 there was a locust plague in Western Australia — afterwards I had to get a car radiator replaced, it broke down rapidly after being jammed full of locust bodies. The conventional measures against the plague, such as spraying with insecticides, were tried, but these were largely ineffectual against the swarming hordes. Now a new natural chemical, the oil from the neem tree, is showing promise for locust control. Sprayed on the solitary-phase locusts when a possible plague is anticipated, it does not kill them — but it does stop the change into the swarming phase, and makes the insect no more than a local nuisance.

A Matter of Evolution

The locusts may have another message for us in our MT progression. Locusts are well known as being creatures of arid lands, in fact they are sometimes called the desert locust. There is increasing evidence (eg in Noël [1989]) that man himself was responsible for the formation of the great desert and arid lands of this planet. If this is so, then the development of the swarming phase in locusts — an evolutionary change with physical manifestations great enough to have the locusts originally classed as a separate species — would not pre-date the development of man himself but would be an evolutionary change forced by man.

In our examination of some of today's countries, the message to be gained is this. All the various countries of the world are in different stages of development. Each stage of development deserves its own ground-rules for MT analysis, what is right for the USA may be wrong for China. From the notes on evolution, we might look to find the ground-rules for a less developed country in the history of a more developed one. From the swarming locusts, we can expect there may be fundamental changes to a country-syston, even quantum leaps in its evolution, from the influence of more advanced external systons. And from the neem-oil story, we can expect the course of evolution of a country-syston to be strongly influenced, even reversed, by technical inventions and interventions.

All these things are the analogues of the matters which were dealt with in the last chapter from the standpoint of human beings. All are expressions of the view that basic MT techniques apply to systons of every level. All should be borne in mind when we move, as now, to look at MT viewpoints on some sample countries of the world of today.

The United States of America

Overall, the US must be regarded as the most advanced, the most highly evolved, of the countries of the world today. To deny this is, in my estimation, only to express a personal level of SIOS which constrains an objective judgement. At the same time, it must be recognized that there are deficiencies in the US which are not mirrored elsewhere. Electing the US to the position of idol of the world's countries does not help, it can only obscure deficiencies and make their elimination more difficult.

I have made it clear, in what has gone before, that in my view the pre-eminence which the USA has risen to is basically due to its great accumulation of infocap. This infocap has paid annual dividends which have been ample to provide a living wage for the syston and still allow the ploughing back of a good percentage to provide for further infocap growth. Research,

innovation, education, philanthropic foundations, all have played a strong part in the American Ethos and have built an unmatched system.

An expression of this high infocap content is the great diversity which exists in the country. The Washington Post, in a 1991 article on Japan's new prime minister, said "In the still peaceful summer of 1939, a Tokyo University undergraduate took a study trip to California and was astonished to find an America totally different from the decadent country described in his Japanese textbooks. Here was a vibrant, hard-working society, Kiichi Miyazawa recalled later, a multi-ethnic nation that drew enormous strength from its freedom and diversity".

The reader will be able to re-write the last sentence in MT terms of synenergy flows, low syston-skin barriers, and infocap accumulation. Also notable in MT terms is the strong US tradition of social engineering, working through designed Rule Structures, which was mentioned in Chapter 116. Of course a feature of these Rule Structures is that they will often include rules to eliminate constraints, they are rules to guarantee freedom of choice, laws to limit laws. The most notable example of this social engineering is the whole conscious decision to adopt 'deregulation' as a standpoint for action, a decision which has reverberated throughout the world.

Another feature of the US system is the diversity among its systels. The country is essentially a federation of independent states, which still retain major powers and still preserve major differences. As an example, state law in Louisiana is based on the Napoleonic system inherited from the French, whereas the other states took their procedures from English law. The two systems are miles apart.

In Chapter 109 the major virtues of this wide-banded situation were brought out. The first is the inherent diversity and consequent high infocap content. The second is the fostering of competition, so that procedures which are working well in one state and are seen to give it an advantage will be adopted in defence by others. And the third is the scope for experimentation — a Rule Structure can be set up and tried, a state acts as a pilot project for the whole union. None of these virtues are present in a centrally-controlled system such as that sought by Mr Dawkins for Australia.

It can be reckoned as routine that changes to a designed Rule Structure will meet opposition — conscious opposition from vested interests, unconscious opposition from the natural desire to avoid change and the instinct that some changes are 'not right'. I was brought up sharp recently on getting a document list from the NTIS, the US Government's National Technical Information Service, a vast agency acting as the sole source of some 70,000 new documents of technical information per year. This is a huge output, equal to perhaps twice the total number of books published in an advanced country like Germany each year.

What brought me up sharp was the pricing structure adopted for the NTIS documents. If a document sold for \$35 within the US, Canada, or Mexico, the same document sold outside these countries cost \$70 — exactly double. I was appalled at the apparent extortion, and also surprised — the Americans have a reputation for generosity in distributing information, in earlier days hundreds of thousands of documents from US agencies such as NASA were bulk-distributed all around the world at no charge.

When I calmed down I realized that I was probably seeing an engineered rule structure change. The US, Canada, and Mexico are consciously moving towards a new free trade area, one which is expected to expand at a later stage to include other countries. From my personal viewpoint, I saw that I would be able to get the pecan conference book I wanted from NTIS at half the price, if Australia was a member of this free trade zone. Come and Join Us? (US)?

What's Wrong With America?

Now for the down side. Perhaps the very worst aspect of American society, as it is generally viewed from outside, is the level of public violence. Unrestrained gun sales, routine muggings in all major cities, joggers killed for their high-tech shoes, deranged serial and mass killers picking off people randomly with high-powered weapons, organized crime syndicates — these are some of the ugly faces of America.

I suggest that in all countries, a dynamic balance is attained between the operation of various forces, and a grasp of any particular balance can be had by looking at what I have called the Four Axioms of Government (Chapter 116), in particular using a four-question matrix cocoon like that in Figure 121.1. Let us put together such a model for the US (Figure 125.1).

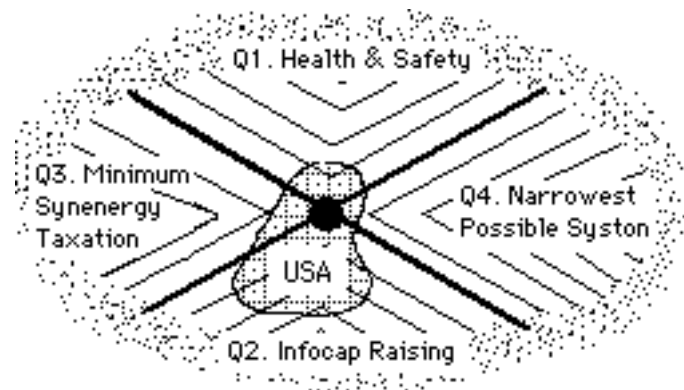


Fig. 125.1. Four-question matrix cocoon for the US

The system trace for the USA in this figure is a reasonably balanced one. It has a large extension into Q2 (is the activity designed to directly raise the level of infocap in the system?), and a reasonable, but limited extension into Q1 (is the activity designed to directly achieve a threshold level of health or safety?). If we were to summarize the good and bad points of the US-system, we might comment that they have Asked Question Two before Asking Question One.

Extension of the US system trace into Q3, minimum synenergy taxation, is also quite good — the US has a reasonable approach to revenue raising, with little evidence of morality-skewed rules such as higher taxes on 'luxury goods'. Extension into Q4, narrowest possible

system, is also quite good — the retention of major powers by the states, the emphasis on individual freedoms, are expressions of this. America has avoided most of the problems of centralization of power.

What are the future prospects for America? An MT evaluation suggests that they will continue to be good. The large infocap base will continue to draw in further diversity, including some of the best individual talents of other countries, in academic, business, sporting, and cultural fields. Extension of free trading to Canada and Mexico will benefit all three countries, with the freeing-up of synenergy flows — and there is no potential loss of narrowest-system control, as there is no suggestion of political union with its centralization dangers.

On the wider view, the margin-slack which the US has enjoyed in its infocap dividend return rate, one which has enabled it to buy what it liked and in some cases artificially frustrate market forces (as in subsidizing its wheat exports), has tended to diminish in recent years as other countries have emulated its successful social engineering moves. Whether other countries or groupings will seriously erode its lead in the future may depend on the extent and speed with which others compete in this area of strategy.

Cuba

Now let us turn to another country, a close neighbour of the US which exhibits a marked contrast (and so has engendered massive SIOS expressions in the US in past years, as in blockades). The system trace for Cuba is obviously quite different to the US one, with a much smaller Q2 infocap extension but a better Q1, health and safety, extension.

Cuba in fact has an exceptionally good health record, with universal state-provided medical facilities and one of the highest life expectancies in the world, higher than in the US, for instance. The streets of its cities are safe to walk at night. This health kick has flowed over into the infocap area — Cuban medicos have pioneered a number of treatments, and the

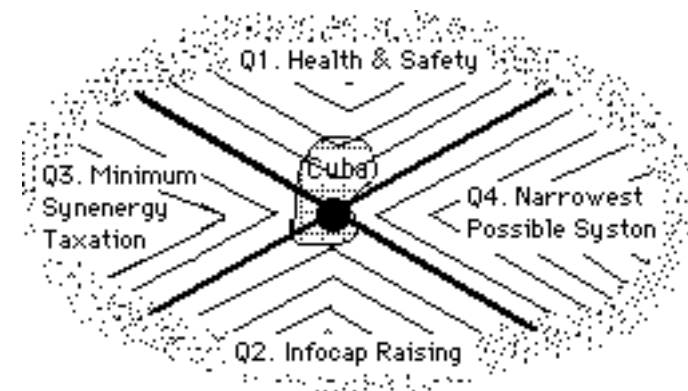


Fig. 125.2. Four-question matrix cocoon for Cuba

country is earning foreign exchange by treating patients from other countries, especially from Latin America.

Its Q3, synergy taxation, extension is unexceptional, working on a relatively small infocap base (as we might say, "the country's poor"). Its Q4 extension is minimal, with centralized government and restricted individual freedoms.

To summarize the four-question matrix cocoon for Cuba (Figure 125.2), we might say that Cuba has tended to Ask Question One almost to the exclusion of Question Two. This is not necessarily an inappropriate strategy for a less-developed country-syston.

Japan

The density of infocap in Japan and the high infocap density gradients at its borders have been mentioned in Chapter 119, and given graphical representation in Figure 119.2.

The obvious face of this infocap store is Japan's wealth in money terms, also reflected in apparent standard of living as measured by average wages. This wealth itself seems to stem from innovative social engineering in the area of manufacturing technology, with such advances as just-in-time production, quality control circles, and the Kawasaki production system — all techniques for improving productivity by getting things done in as accurate, consistent, and timely ways as possible. Such techniques do have possible applicability in other syston levels.

A resource-poor nation, Japan has built up its infocap through the traditional routes of education, research, and investment in innovation. It might be said that Japan's thick syston skin has aided in this process, causing its infocap to reverberate around and build up within the syston rather than being spread thin outside. But Japan appears now to be at the crossroads.

The history of Japan's development as a country-syston parallels that of part of a plant species, trapped on an island which has been moved far away from the main species group by an expanding Earth. As the island entered quite a different climatic zone from its mainland parents, so the island population of the species evolved and developed its own special characteristics which suited it for the local conditions.

Now the seas separating the island from the mainland have drained away, and both parts of the species must compete on common ground. Some of the island-evolved characteristics may be useful in the new competition, and some a detriment.

Some might think that Japan's intensely isolated social development has let it fall into an evolutionary blind alley, one which will make it difficult for the country to get back on the main road being trampled out by the rest of the world. In my view, Japan is the most different, the most alien, of all cultures as far as a westerner is concerned, much more so than an 'infant' syston like an Amazonian Indian tribe.

This evolutionary path has left the Japanese surrounded by a high syston boundary and its inevitable SIOS repercussions. Ronald Yates [1990] has written on how the normal foreigner rejection tendency has extended, in Japan, even to Japanese who have lived outside Japan for any long period.

A Japanese pianist who had worked some years in Chicago was rejected for jobs in Japan as being 'too foreign' or 'no longer Japanese'. Japanese writer Chikako Osawa was so

outraged by the relentless bullying of her 12-year old son, after the family returned to Tokyo from New York in 1982, that she vented her anger by writing a best-selling book, *There is Only One Blue Sky*.

According to Ms Osawa, Japan's 'collective closed mind' still persists. "In terms of its people, Japan remains a closed, walled-in country," she said. "Returnees are not encouraged to share their overseas experiences. Children are punished if they behave differently".

Ms Osawa places the blame squarely on Japan's monolithic education system. It's a system, she said, that stifles individual expression and says everybody must be the same.

If a generalization can be made of Japanese attitudes to other countries, it might be that they are uncertain and hesitant as to actual procedures. Japan's response to world outcries about such things as slaughter of whales and dolphins, or wholesale marine-life trapping in drift nets, seems to be to accede slowly to such pressures because it seems to be what the rest of the world wants, and they want to belong, rather than because of changes in local perceptions on the particular issues involved.

There seems little doubt that Japan's social evolution and the infocap store it has accumulated both suffer from a lack of balance. If Proposition 115A in this book is valid, Japan's total synergy is not high. While it may be the second richest nation in the world, it is certainly not the second most favoured migration target.

Typical employment conditions in Japan are far inferior to those in other advanced nations, with employees getting less than 8 days paid holiday a year, and working excessive overtime, often unpaid — averaging 200 hours per year more than their US counterparts, and 500 hours more than the French or Germans. It has been claimed that 'karoshi', meaning 'death through overwork' kills more than 10,000 Japanese a year.

All this goes to support the idea that Japan is not an attractive place to work in, not a place where foreigners or foreign ideas find ready acceptance. The MT conclusion would be that Japan is notable deficient in many areas of infocap and synergy, and the MT prediction is not optimistic unless the country can achieve massive reductions in its syston boundaries and SIOS levels.

Europe

Europe. An area in turmoil, all parts undergoing massive social changes. An area with extremes of riches and poverty, intellect and drudgery, fine-tuned landscapes and industrial deserts. An area rich in traditions, libraries, works of art, cultural history, languages, a dazzling array of ethnic differences and habits. An area trammled by deep gullies and intricate beartraps of tradition, vested interests, conservatism, and SIOS.

According to the gardening writer Tradescant [1991], some 400,000 British citizens now own property in France, and perhaps two or three times as many have rural retreats in Spain. In the burgeoning phenomenon of 'Eurogardening', landscapes and streetscapes are being changed as traditional English gardeners get their revenge for King Harold and invade France, strewing the battlefields of French front gardens with their weapons of rose and daisy. Trad himself has succumbed, buying a rust-coloured farmhouse in the shade of Europe's finest oak forest, the Bourbonnais' Forêt de Tronçais.

How the locals must resent these amiable, cardigan-clad invaders, brandishing their secateurs. But in the most massive and still uneasy social undertaking of our times, all the ground-rules have changed, and the locals can do little except grumble and enjoy a few time-honoured maquis-type annoyances inflicted on their inoffensive prey.

Inevitably, in the course of decades, fraternization will meld imperceptibly into homogenization, and all will become members of a wider-ranging, more fluid community, as social engineering builds a new Europe and a new kind of syston. This hyper-syston is still in its infancy, with its brain neurons still growing together to set the future personality which it will show to the world in its youth and maturity.

With nurture and good fortune, constant touching, seeing, and feeling of world objects, and a sharp eye on its older American cousin and role-model, Europe has an excellent chance of growing up to throw off the fears and restraints of girlhood and bloom into a beautiful, sharp-witted, and serene woman. For romantics who like a story with a happy ending, one could write a scenario in which Europa falls in love and prospers in a happy Proposition 107C marriage with her tall strong cousin.

South Africa and Apartheid

Here is a bit of social engineering which was misconceived from the start. Rich in its lands, resources, and people, South Africa was a syston torn apart by a foolish attempt to fence off part of itself for the benefit of an elite.

It is easy to be wise in hindsight, and it might be as well for the world to show understanding and support for this youthful syston which made a tragic blunder which put it into the juvenile court. SIOS may be expected to show up strongly in all young systems, and if South Africa was ever to take its rightful place in the world, its SIOS burden had first be somehow eased.

In 1991, in May, I contacted David Tothill, the South African Ambassador to Australia, at a time when the urban violence in South Africa was particularly virulent. I suggested to him that the violence problem might be eased if his government obtained the services of a United Nations police force, as this would be viewed as disinterested, defusing the antagonism directed at all local groups, but especially the government. I also suggested that an outside group might bring in new ideas for a resolution, as they sat outside the situation, that it might be a much cheaper way for the government, as they would not have to pay the full costs, and that such an action would greatly boost an image of openness for the government.

I was genuinely taken aback by Dr Tothill's response. I had expected a reply which pointed out practical difficulties of such a proposal. Instead, the complete response was as follows.

“Thank you for your letter of 24 May. The presence of a UN police contingent in South Africa would constitute an infringement of our sovereignty. For that reason, your idea cannot be entertained.”

I knew then that all the problems of a skewed and underfunded general education system, all the difficulties of coping with a syston having insufficient infocap accumulation to maintain general living standards at acceptable levels, all the difficulties every syston experiences as it grows up, all these were sitting powerless behind the great SIOS barrier called apartheid.

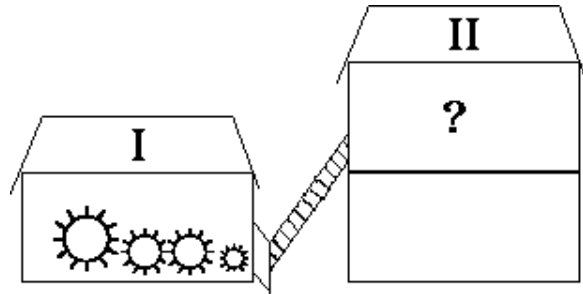
Thinking about the situation since then, I have to admit to increasing cynicism about the word 'Sovereignty'. In practical terms, this word appears to mean only the strong intention of those currently on top to remain so as long as possible — and the rest can go hang.

Australia

And so back home. When Galileo brought forth the new truth that the Earth was not the centre of the Universe, the resistance and persecution which he encountered was to be expected. His concept was at war against the SIOS of the time, the reduced status of the Earth which he suggested diminished the ego of the syston and had to be rejected.

Australia has much going for it in the future. But the world as a market-square of active, competing, jostling merchants is coming to an end, swept away by a computerized bourse network with silent terminals in every home. I feel the future world has no place for 'leading nations' of any identity, that phase of systonization has served its usefulness. In looking for everyone's brave new world, in the building of a holosyston which encompasses the whole of a planet, a more aware Gaia evolved above a lowly subconscious response level, there will be no place for an Australia still caught up in the SIOS of immaturity.

Instead, Australia might open its shining store of infocap to more general use, as a member of one of the new hyper-systons moving confidently and securely about a more tolerant and open world. While the state of Peter Pan might be an enviable one, there are joys beyond those of youth.



FOR NOW WORD

“I call the points where a rapidly developing technology takes off and starts to displace its predecessor ‘technological transitions’. Rarely do leaders of the last technology play a significant role in the next; they’ve usually become encumbered with a superstructure focused on managing a mature market, incapable of acting with the rapid pace that’s needed to develop the new market”

— John Walker

Here endeth the First Part. In Part II of this book, we will go on the second leg of our tour of discovery, visiting all the various fairground tents in which the sectors of our Matrix World are accustomed to accommodate themselves.

With us we will take the apparatus and engine of Matrix Thinking which has been built up so far. While as yet only a working prototype, fresh out of the engineering workshop, this engine should be a useful device with which to check all the spruiking and publicity handouts which the different tents provide. While it may be necessary to make a few changes to the engine on this tour, they will only be of the nature of running repairs, needed to get us to the final point in reasonable shape.

As for you, the reader, until the time upon which you commence that second leg, look around you. If you have got this far in the book, you should have already acquired a number of new perspectives on the world. Use these perspectives to examine and bring out the inner mechanisms of everything you encounter — what you observe at work and at home, what you see on television, what you read in newspapers and books, what happened at the club.

In my last book, *Nuteeriat*, I justified the use of data drawn from all parts of the world, from television programmes and phone calls and newspapers and personal observation as well as the approved sources of refereed journal articles, on the grounds that the book was a work of synthesis, and a work of synthesis had to draw from disparate areas, almost by definition.

In *Matrix Thinking*, my justification for using the same wide net is different. Here these newspaper articles, these reports, are not just evidence of work being carried out, they are also the data itself. Not only the contents of a particular newspaper report, but also the existence of it, is part of the Matrix swirl in which we live. Reach out and touch it.

Elsewhere in this book I have remarked that the usual time taken from first exposure of a basic new concept to its practical and common use is close to 40 years. In so far as this book may contain new concepts, this does not seem promising for their acceptance, or even their critical examination. Usually there is an entrenched inertia.

Fortunately, there are two sets of circumstances where the ‘40-year rule’ does not seem to apply. The first is where the new concept happens to fill a real hole, rather than needing to push aside an existing concept. This happened, for example, with the Bohr theory of the atom.

The second is where the new concept has the immediate prospect of making money. Since many of the ideas put forward here have to do with money, as one form of infocap, it seems to me that if these ideas have any validity, those who are more astute than me will soon work out ways in which they can be applied to generate money. And good luck to them.

Writing this book has changed me, changed my views on many aspects of the world. Perhaps it may change you too. I would like to think that it could be of value in attempts to improve our world a little, through improving our understanding of that world.

David Noël
Perth, September 1992

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