Matrix Thinking

Book I

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For Peter Good,
who understood
and encouraged.

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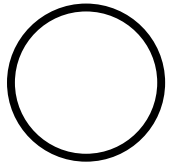

FORE WORD

"The art of discovery is to 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 . . .

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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.

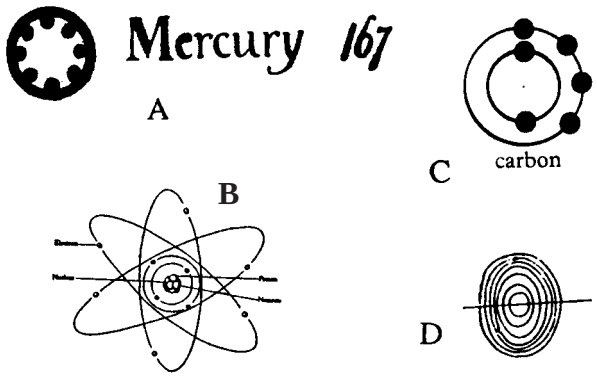


Fig. 101.1 Older and newer representations of the atom. A: One of John Dalton's original symbols; B: The planetary model; C: The shell model; D: An electron-density map

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.

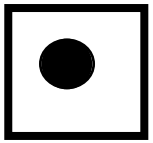
Whether a particular change suggested is an 'improvement' or not will be left for the reader to judge. Throughout this book I have tried hard to avoid pre-judging the issue, and saying what *should* be done in a particular situation. Instead I have limited myself to pointing out what the Matrix Thinking 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.

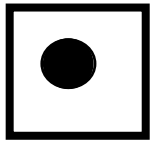


Fig. 102.1. The Infocap symbol

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

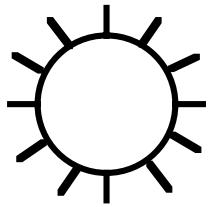
Even if a country is using only its current infocap dividends for running costs, and so could be expected to at least 'keep place', there is the question of rising expectations. These rising expectations stem not just from its own population, but also from outside. Is it right that the health levels 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 prestigeous. 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 prestigeous 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.

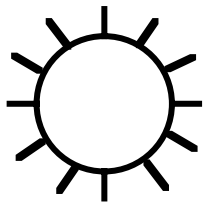


Fig. 103.1. The Syston symbol

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 systons has occurred

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

Systons, Systons, Everywhere Systons

We now pass on to look at examples of the vast range of systons which have come into existence in the modern world. Some of these systons 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 syston? Before even the family, there existed what we might regard as the simplest and most basic syston of all — the individual. At first sight this seems to be the limit — the person, the idiosyston; we can't break that up and still have the elements of self-organizing ability required for a syston.

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 idiosyston is still probably the minimum level of complexity to qualify as a syston.

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 syston. An individual ant, for example, is not independent enough, it does not contain enough infocap, 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 syston.

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 syston, 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 syston 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 syston. 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 systons 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 idiosyston to work out the rules applying to systons 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 Systons

After the self, the most clearly defined systons 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 syston 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-syston. Like a young child, continually testing its parents to see how naughty it can be and still get away with it, country-systons 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 systons continually seek to monitor and define their boundaries***

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

Between the Country and the Self, there are intermediate systons, 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 syston 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.